

Interactive comment on “Manipulating interactions between plant stress responses and soil methane oxidation rates” by Xiaoqi Zhou et al.

Anonymous Referee #1

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The authors conducted a field experiment to assess how the use of ethylene biosynthesis inhibitor (AVG) would alleviate the inhibitory effects of ethylene from plants due to drought stress to methane oxidation of soil microbes. Their results showed that adding AVG could increase soil methane oxidation rates compared to control, and thus they concluded that AVG application can increase soil methane oxidation process under moisture stressed conditions. I found this manuscript was straightforward and well written. The topic falls within the scope of the journal. But I think this paper is more suitable for a short communication, as the paper is too short and data presented here was very limited. I suggest the authors can modify it to a short communication. Some minor points are here. 1. L67-70 Rephrase it. Too long to understand. 2. L111-116 How many gas sampling was conducted to measure CH₄ oxidation rates in one jar?

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How about the coefficient for linear regression? It's better to show gas concentration over time for different treatments in this study. 3. L135 “CH₄ methane oxidation” 4. L161-164 Can excessive irrigation directly reduce aerobic methane oxidation as the authors proposed in L148-152?

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