



EGUsphere, author comment AC1
<https://doi.org/10.5194/egusphere-2022-141-AC1>, 2022
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Reply on RC1

Shahar Baram et al.

Author comment on "The effect of static chamber base on N₂O flux in drip irrigation" by Shahar Baram et al., EGUsphere, <https://doi.org/10.5194/egusphere-2022-141-AC1>, 2022

Reply to comments made by reviewer 1:

We wish to thank the reviewer for his kind word and insightful comments.

Comment 1: Please correct minor typos as marked on the attached pdf.

Reply: Thank you for noticing the typos. All were corrected.

Comment 2: Consider expressing fluxes in units more familiar to readers e.g g/m²/d even as a one off comparison.

Reply: The units were changed to g m⁻² d⁻¹ in all the graphs and text as suggested.

Comment 3: - L236 check text and caption for Fig. 3 align

Reply: Indeed the caption had a typo where NO₃ and NH₄ were mixed. It was corrected.

Comment 4: L266-267 Add text to indicate why higher WFPS or higher N concentrations favour higher N₂O. See pdf.

Reply: As requested, an explanation was added to the text "Suggests N₂O_{In} results from conditions more conducive to denitrification (e.g., higher WFPS) or nitrification (e.g., higher NH₄⁺ concentrations) (Lines 313-314 in the revised text).

Comment 5: L319-333 is this in the results? Shift to results section.

Reply: As suggested, some of the text was transferred to the results section. The revised section now reads "Comparison of cumulative N₂O emission measured in 2018, 2019, and 2020 and the simulated cumulative emissions (over 60 days) showed the N₂O_{In} flux to be 40% – 70% higher than the N₂O_{Adjacent} (Fig. 7B)".

Comment 6: P10 a lot of this text reads as results or methods. Suggest some is shifted to appropriate sections and discussion revised.

Reply: As suggested the text on page 10 was modified. A substantial portion of the text was moved to the Methods section, under a new subsection titled "2.2.4 Recommendation on the diameter of the chamber's base". Another part was moved to the results section.

Comment 7: For the conclusion suggest "...we concluded that static chamber methodology, which requires the insertion of bases into the soil, underestimates N₂O emissions when used in drip irrigation.....This effect can be mitigated through optimizing chamber design. A nomogram is proposed..."

Reply: We adopted the suggested edits to the text and modified it to "... we concluded that static chamber methodology, which requires the insertion of bases into the soil, underestimates N₂O emissions when used in drip irrigation. "These effects can be mitigated through optimizing the chamber design. A nomogram is proposed..." .