

Dear Daniela Famulari,

Thank you for your valuable comments.

Please find below our replies and actions on your specific comments.

Comment: The manuscript “Optimized design of flux chambers for measurement of ammonia emission after field application of slurry with full-scale farm machinery” reports over a study on a novel setup for enclosure measurements of gaseous NH₃ emissions from slurry. I would suggest a change in the title “Evaluation of an optimized design of flux chambers for...”. In the sense that the described apparatus has been evaluated against models and in a field trial for different conditions: it is just a suggestion, up to the authors to decide.

Reply: We agree that adding ‘Evaluation of’ to the title will make the title match the content of the manuscript more closely. The title has been changed to: *Evaluation of optimized flux chamber design for measurement of ammonia emission after field application of slurry with full-scale farm machinery*.

Comment: L15: “To evaluate mitigation options, reliable measurements of effects are needed”. I am not sure about this sentence: effects of NH₃ on the environment? Effects of different practices on NH₃ emissions?

Reply: The sentence has been edited to clarify the meaning.

Comment: Fig.1a resolution results inadequate, make sure in the final version you have high resolution figures.

Reply: High resolution figures will be uploaded with the final version.

Comment: L90: AER acronym is defined only later in text, correct that.

Reply: The error has been corrected.

Comment: L212 what is a stream? An air-line?

Reply: ‘stream’ has been corrected to ‘air stream’

Comment: L214-217 and from here on: AER measured in min-1? I don't understand this.

Reply: An explanation of the AER units has been added the first time AER is mention, around L 90: ... *to control and measure the volumetric air exchange rate (AER, m³ flow per minute per m³ chamber volume),...*

Comment: L309-311: This is something also the reviewers pointed out (in a different light): I understand the intention to create well mixed conditions within the enclosure; however, that affects

the rate at which NH₃ will volatilise from the surface, won't it? Perhaps to justify the regimes of "wind" within the chamber, it would be useful to mention here what are the real wind conditions on the field, to justify the regime chosen for operation? Just a suggestion.

Reply: We added some details on this matter in section 2.1.2: *It was not a goal to mimic ambient wind velocities or mass transfer, as these vary greatly. The chambers are designed to have a constant AER during an experiment in order to keep the measuring system simple, and therefore more robust for field measurements.*