

Detailed response

In the following I'd like to suggest some changes to the tables (often admittedly personal preference):

Tables.

Table 1.

- Shorten the caption (16 lines of description).
- Also, a column with of number of samples (n) would help the reader to assess the robustness of the given average emissions.
- I would suggest to round to the first decimal to reduce visual clutter (esp. with the group identifiers present in the table)

Table 2.

- The chamber location identifiers a, b, c do not help the reader. Either also identify the distance to tree in the table or use descriptive abbreviations?
- Again, indicate the number of measurements considered
- Given the lack of NO data for 4 of the 6 sampled sites, maybe another organization would be better?

For instance:

Table 2a (N₂O) – columns:

Oil palm site / CH pos / N₂O (clay Acrisol) / N₂O (loam Acrisol)

Table 2b (NO) – columns (with oil palm site index given as NO column identifier (?)):
CH pos / NO (Acrisol) / NO (loam Acrisol)

Table 3./4.

- They could go into the appendix
- Table 4 should be split into N₂O and NO data (see Table 2)

Table A1 & A2.

- Shorten caption
- Combine A1 & A2 into one table and add it into main document as a site description/ reference for the the reader
- Round WFPS, NH₄ and NO₃ to one digit to reduce clutter
- This might be personal preference, but maybe remove the significance letters, too (they make the table really hard to read, also almost all entries in A1 have a lowercase 'a', maybe only label when they differ?; and important differences can be discussed in the manuscript).

Figures.

Some scale modification and additional labels would make the figures easier to read.

Fig 2.

- Matching scales would help the reader (at least for groups; a) & c) and b) & d))
- Add Tree-base distance in the plots to guide the reader
- Add fertilizer amounts to plot or caption (instead of referring section 2.2)

Fig 3.

- See comments for figure 2 (y-axis breaks for a)&b) required)

Detailed comments:

- p5, l19: Introduce site abbreviations that you can refer to in the text
- p5, l22: introduce H1 and H2 for your hypothesis so you can refer to them in your discussion
- p6 I would give a site property table here (basically combine A1&A2) and add soil properties – I feel a reference to Allen 2015 & Hassler 2015 for such fundamental information for the manuscript is not sufficient
- p6, l16 is the precip data given as SD?
- p6, l20 that's actually substantially higher
- p7-8 site & design description could be shortened substantially
- p8 Please work on the language in this section: I counted 'was done' 5 times in this paragraph
- p9, l20 give a reference for N fertilizer induced pulse emissions
- p11 trapezoidal rule should be explained briefly here (esp. since it's not explained in the given reference Hassler et al., 2015 either; in there is another reference to Koehler et al./ Veldkamp 2013).
- p12, l4-l10 This is hard to read; just give the equation
- p13, l10 "when necessary" – explain
- p13, l13 briefly remember the reader about your hypothesis H1 & H2 here
- p13, l22 – p14, l 15 tis is very detailed... maybe move this into the appendix/ a supplement?
- p15, l11 mention the reference land uses again
- p15, l11 "...from soils. In the clay ..."
- p15, l15 Was this systematic? I.e., was there always one measurement (position) an outlier?
- p16, l3-4 give the fertilizer rates here, too
- p16, l6 "In the chamber position closest to the tree, soil N2O emissions..."
- p16, l9 There's also a peak for site 1 (but smaller)
- p16, l18 Due to which assumptions? Trees per ha? Avg. basal area of those trees?
- p18, l3 NH4 (only weak?)
- p18, l5 What is the temperature amplitude between the measurements? Relatively minor I suppose due to the tropical climate?
- p18, l5-l9 Remove this single sampling period outright since it clearly seems fertilizer-induced
- p18, l13 -l14 How is this possible?
- p19, l17 Give the range of your fluxes here for comparison

p19, l19-l25 This is very wordy, could be shortened substantially

p20, l8 What about the other literature? You only compare to reports from your specific region

p21, l24 I do not get the reasoning here. Were there fires going on in the region during the measurements?

p22, l8 Give the observed flux range here for better comparison, also the N application rates would help to judge the observations

p22, l9 Why do you give the elevation here? This is not really a factor (110m, 580, ...)

p22, l12 However, the sampling there was very detailed and covered the transition period

p22, l15 “nine monthly” is a bit deceptive, it’s 9 single measurements, right?

p22 Maybe a literature review table with relevant citations for the investigated landuses combined with your results would be appropriate here? This would also help the better interpret your results in context.

p23, l4-l6 Also true, this seems unnecessary to mention here. Maybe give a half-sentence in the abstract highlighting the novelty of your NO measurements.

p23, l7 remind the reader about the hypothesis again

p24, l21 Isn’t it expected that fertilizer-induced emissions occur at the site where fertilizer is applied?!?

p25, l8 mention your fertilizer rates again for comparison

p25, l9 these seem high; please give the references

p25, l25 pulse application? Maybe: “the event-based application of high N rates” or something similar?

p26, l10 – l12 This is most likely not true for low – medium moisture levels

p26, l12 – l16 This sentence actually highlights a key problem with such an extensive sampling routine and should be discussed further

p26, l20 true, although the “full year” is based on few measurements

p26, l22 Name the hypothesis, the reader might have forgotten which hypothesis was which

p27, l7 ditto

p27, l12 change unit ‘kg’ to ‘t’