

Specific comments:

P4 L2 Butterbach-Bahl

P6 L9 developments

P7 L3 breakdown of mineral fertilizers

P6 L20 if the estimate from Leip et al. (2011) is correct and emitted N₂O accounts for 15% of total N losses I do not think that you can call it “a small fraction”.

P16 L11 Why is H₂SO₄ decreasing (less SO₂?) And what is the period of “those days” the 1950ies, 60ies, 70ies...?

P16 L 20 What is RH?

P17 L18 Are SO₂ emission increasing over the entire 20th century? Have SO₂ emissions not peaked in the 1970ies (at least in many European countries) and then begun to level out or decrease (see Smith et al. Anthropogenic sulfur dioxide emissions: 1850–2005, Atmos. Chem. Phys., 11, 1101–1116, 2011)?

P18 L26 avoid double use of “typical”

P19 L2-L5 avoid triple use of “high/highly”

P20 L 23 add “daytime both NO₃ radical and”

P21 L2 formation of NO₃ radical or particulate NO₃-

P21 L9 check term - is “organic NO₃-” correct?

P22 L6 suggests

P22 L17 largely

P24 L23 which of these networks are ongoing networks (e.g. NEU is not, while EMEP is).

P25 L12 delete (2011) (there is not reference in the reference list in case that NitroEurope IP (2011) should be a reference)

P25 L28 delete Simpson et al. (Simpson et al., 2007)

P28 L8 From the descriptions above it seems that land-cover (type) is not the only or even major driving parameter, but rather their bio-physical properties, such a canopy structure, height etc.

P28 L18 introduce abbrev. DMS

P29 L6 delete (Zhang et al. 2007)

P31 L5 here in exchange

P31 L15-L19 it seems to be that two sentences are mixed here – the current statement does not make sense

P32 L14 development came with

P33 L22 C_{air}

P34 L7 There is no reference in the entire section – are there no reports about this topic at all?

P37 L22 Is there quantitative information on the ratio of wet chemistry samplers versus precipitation collectors in general (e.g. for Europe or selected countries). The discussion of the problems with regard to the positioning of samplers (e.g. height) is not only a problem for wet chemistry sampling but for precipitation sampling in general.

P38 L7 Simpson et al. 2006 missing in reference list

P38 L15 please use the same term (“seeder – feeder” or “seeder-feeder”) throughout the paper

P42 L6 according to ISO, the abbreviation is Glob. Biogeochem. Cycles

P43 L17 is there no better reference than a 1 page conference abstract?

P44 L 26 air quality₂ in

P44 L32 terrestrial ecosystems₂ in

P49 L10 Plant and Soil (delete and)

P52 L32 NO_x reduction₂ Frankfurt₂ (is there no better reference than this conference abstract, which is difficult to find in the www)

P53 L13 European scale₂ in

P53 L24 methods₂ in:

P54 L1 and greenhouse gases

P56 L21 Check journal abbrev.

P57 L33 Hcn – capital letters?

P58 L22 Europe₂ in:

P61 L2 correct citation: Sutton MA, Fowler D (1993) A model for inferring bi-directional fluxes of ammonia over plant canopies. In: Proceedings of the WMO conference on the measurement and modelling of atmospheric composition changes including pollutant transport (Sofia, Oct. 1993). GAW-91. Geneva: WMO, 179-182)

P61 L24 Butterbach-Bahl

P63 L2 NO₂ (two typos, same line – in addition many words are written in capitals, which is not the case in the printed version of the paper)

P63 L19 chemistry₂ in:

P65 L 16 delete “(vol 46C, pg 195, 2011)”

P69 Figure 3 What units do you mean by [units] on the y-axis

P70 Figure caption 4 and P72 Figure caption 5: delete ;, include (left), delete to the and include (right)

P74 Figure is confusing: Are poultry farms usually located as isolated entities in forests? To make the figure readable, authors positioned deposition/distance/concentrations along sectors with no trees. Is this correct? I would expect an effect of trees on deposition ranges, concentrations and amounts/loads. So, preferably it would be good to indicate the effects of such “shelter trees” on deposition/distance/concentrations.

P75 Figure caption 9: ... same colour baseu as the