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Interactive comment on “The fate of N₂O consumed in soils” by B. Vieten et al.

B. Vieten et al.

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This is a good suggestion to measure the conversion of N₂O to NH₃. Unfortunately this method would not work with the soils we had in our experiments. Our soils had pH values between 2.9 and 7.0. The formed NH₃ that leaves the cell would be transformed immediately to NH₄⁺ and only a very small fraction <1% of the newly formed NH₃ may escape and be captured by boric acid (Sommer et al., 2003). In contrast, our method captures the majority of 15N weather it remains as NH₄⁺ adsorbed to soil or whether it will undergo further processes, such as nitrification or immobilisation.

Reference: Sommer, S.G.; Générumont, S.; Cellier, P.; Hutchings, N.J.; Olesen, J.E. and Morvan, T.: Processes controlling ammonia emission from livestock slurry in the field, European Journal of Agronomy, 19, 465-486, 2003.

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