

## ***Interactive comment on “Trimethylamine emissions in animal husbandry” by J. Sintermann et al.***

### **Anonymous Referee #2**

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This paper measured the TMA emission with a few other trace gases in a dairy farm, and thus inferred the formation mechanism of TMA, which is mainly due to the mixing of urine and faeces. The TMA emission rate and lifetime were also estimated and its influences on SOA formation were discussed. Overall, this is a well-written paper and i second its publication on BG, yet i still have a few comments before its publication

General comments: 1) The authors should make it clear that this study is only a case study, that its results should be used with cautions when scaling to a global level.

2) The discussions on TMA influences on particle formation are a bit skeptical as all the discussions are based on previous studies, without a clear connection with the findings of this work. The authors give no details on their estimated lifetime of 30-1000s using the model of Kulmala et al. (2012). TMA and other amines may have a longer life time

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as it neutralizes the acids rather than being attacked by oxidants (such as OH radicals), its partitioning may be influenced by the RH, temperatures, etc.

specific comments: 3) The correlation coefficients should be provided for Figure 3.

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