

## Analysis of the literature on gas emissions from animal houses: what lessons for data reporting?

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A consortium involving research and extension services partners was created to develop a database (ELFE) gathering international literature references on ammonia and greenhouse gas emissions in pork, poultry and ruminants productions and related metadata (Vigan et al, 2019; <https://data.inrae.fr/dataset.xhtml?persistentId=doi:10.15454/MHJPYT>). Around 5 200 gas emission values extracted from 345 publications published from 1964 to 2018 from 37 countries were recorded in the database. All available information regarding climatic conditions, measurement protocol, breeding conditions (manure management, ventilation system, animal density, ...) were collated. One objective of this database is to convert in 3 different units the recorded emission data to assess emission factors for the different animal categories, manure management systems, climatic and breeding conditions. The analysis of the database for the sections that concern animal house shows that up to 60 different units can be used to present gas emissions. Equations have been proposed to convert all these units in the 3 reference units selected usually used for inventories or environmental assessment. For each value, conversions have been made only if required data for conversion were available in the corresponded paper. The number of converted emission data varied in function of animal production and reference unit. For the reference unit, % N excreted, the number of emission data converted is very low whatever the animal category and production system. These results lead to recommendations to authors for emission data reporting.

Vigan et al (2019) : <https://doi.org/10.2134/jeq2019.01.0007>