# Article information:

The 18O signature of biogenic nitrous oxide is determined by O exchange with water - Kool - 2009 - Rapid Communications in Mass Spectrometry - Wiley Online Library  
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# Article summary:

1. The 18O signature of biogenic nitrous oxide (N2O) is determined by O exchange with water.

2. A novel combination of 18O and 15N tracing was used to study O exchange during N2O formation in soil across Europe.

3. Results showed that up to 97% of the N2O-O originated from H2O instead of from the denitrification substrate NO, challenging the assumption that the O of N2O originates from O2 and NO.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is written by D. M. Kool et al., published in 2009 in Rapid Communications in Mass Spectrometry, a journal with a good reputation for publishing reliable research articles. The authors are all affiliated with Alterra, Wageningen University and Research Centre, which adds credibility to their work as well as providing an indication that they have access to resources necessary for conducting such research.

The article provides a detailed description of the methodology used for studying O exchange during N2O formation in soil across Europe, including details on sample collection and analysis techniques employed. This indicates that the authors have taken care to ensure accuracy and reliability in their results. Furthermore, the article includes references to other relevant studies which further strengthens its credibility.

However, there are some potential biases present in the article which should be noted when assessing its trustworthiness and reliability. For example, it does not provide any information on possible counterarguments or alternative explanations for their findings, nor does it discuss any potential risks associated with their conclusions or implications for future research or policy decisions related to nitrous oxide emissions mitigation strategies. Additionally, while the authors do provide references to other relevant studies, they do not explore these studies in detail or compare them to their own findings which could help strengthen their argument further.

In conclusion, while this article is generally reliable and trustworthy due to its detailed methodology descriptions and references to other relevant studies, there are some potential biases present which should be taken into consideration when assessing its validity and reliability.

# Topics for further research:

* Nitrous oxide emissions mitigation strategies
* O exchange during N2O formation in soil
* Counterarguments to O exchange during N2O formation
* Alternative explanations for O exchange during N2O formation
* Potential risks associated with O exchange during N2O formation
* Comparison of O exchange during N2O formation studies

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