

Interactive comment on “Nitrous oxide emission and nitrogen use efficiency in response to nitrophosphate, N-(n-butyl) thiophosphoric triamide and dicyandiamide of a wheat cultivated soil under sub-humid monsoon conditions” by W. Ding et al.

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Thank you very much for your review of our manuscript. The manuscript will be revised carefully according to the comments and suggestions of the reviewer. We hope the revised manuscript can fit with the acceptable standard for Biogeosciences. We would like to express our heartfelt gratitude to anonymous reviewers and the editor for their constructive comments and suggestions that really improved the manuscript greatly.

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The point-by-point responses are as following:

Reviewer Comments: This is a well-written paper. The research topic is scientifically sound and interesting, related to the influence of inhibitors and nitrate-based fertilizer on the N₂O emissions, crop yield and N use efficiency in the North China Plain. The authors found that the inhibitors of NBPT and DCD together with urea as basal fertilizer rather than supplemental fertilizer, and the nitrate-based fertilizer instead of urea could greatly reduce N₂O emissions during the winter wheat growth season. Meanwhile, nitrate-based fertilizer significantly increased wheat yield by 12.3% and N use efficiency from 28.8% to 35.9%. These are very interesting and valuable findings for readers and policy-makers. The experiment design is robust, data presentation is clear and the discussion section is written fully. Therefore, I would recommend its publication with a minor revision. It certainly falls within the remit of Biogeosciences.

Answer: Thank you very much for so nice comments.

Comments: A few smaller issues: 1. P13572, L10, add “kg N₂O-N ha⁻¹” following “0.49-0.12”. 2. P13574, L21, change “. . .were drastically than. . .” into “. . .were drastically higher than. . .”.

Answer: We will revise the sentences according to above suggestions.

Comments: 3. P13575, L22, show soil taxonomy such as UAS or FAO. 4. P13580, L3, I suggest that the analysis method for data normality test should be added.

Answer: We will add the missing information in the revised manuscript as suggested by the reviewer.

Comments: 5. P13581, L7, please delete “the”. 6. P135813, L22, Change “ammonia-based” into “ammonium-based”. 7. P13584, L16, Change “denitrification in general could produce more N₂O” into “denitrification could in general produce more N₂O”. 8. P13586, L5, “inner Mongolia” should be “Inner Mongolia”.

Answer: Thanks greatly. We will improve the sentences according to above sugges-

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tions.

Comments: 9. P13588 L9, "Application of urea with NBPT and/or DCD slightly increased wheat yields", I suggest adding "compared with urea alone" to this sentence.

Answer: We will revise the sentences as above suggestions.

Interactive comment on Biogeosciences Discuss., 11, 13571, 2014.