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.

Anonymous Referee #1

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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.

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…” 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. 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”. 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.