

Interactive comment on “Greenhouse gas emissions and reactive nitrogen releases from rice production with simultaneous incorporation of wheat straw and nitrogen fertilizer” by Longlong Xia et al.

Anonymous Referee #1

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Xia et al. evaluated the effects of N rates on GHG emission from rice paddy incorporated with wheat residues in Taihu Lake Region, and conducted an economic assessment on the environmental cost associated with agricultural practices. The manuscript is generally well written and its conclusion is supported by the data. A few comments:

The section on the details of the long-term experiment (lines 145-153) is not necessary. It was a bit confusing because the rates of residue incorporation used in this study (Table 1) were different from those in the long-term experiment (line 146).

The relationship between CH₄ emission and the amount of organic matter input of

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different studies (lines 249-259) was not the major focus of the paper. The discussion should be simplified rather than being extended with possible explanations, some of which are speculative.

The section on the economic evaluation of the release and mitigation of GHGs and Nr was quite informative. At a few other places in the discussion section e.g. lines 278-285 the authors presented their results, and compared the results with others', which was fine but the manuscript would be more informative if the implications of the findings could be explored.

Minor comments:

Line 76: delete "And"

Line 112: The scientific name of rice was provided but not for winter wheat

Lines 252-253: What does it mean by "the applied OM rates among different treatments are statistically different"? A statistical test on the independent variables (OM application rates)??

Line 311: "was not" instead of "wasn't"

Lines 344-346: incomplete sentence

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