

## ***Interactive comment on “Options for mitigating global warming potential of a double-rice field in China” by Guangbin Zhang et al.***

### **Anonymous Referee #2**

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This paper reported 4 years fields experiment results to show how both CH<sub>4</sub> and N<sub>2</sub>O emissions from double-rice paddies affect by drainage and tillage managements in winter fallow season in a typical subtropical climate zoon in Southern China. The global warming potentials (GWPs) from CH<sub>4</sub> and N<sub>2</sub>O, greenhouse gas intensity per yield (GHGI) were also estimated in this paper. The data shown in the paper was reliable and calculation and statistical analyses were suitable. Please consider the minor points shown below for improving this manuscript.

1. The title should be clear, it can be changed as “Options of drainage and tillage managements in winter fallow season for mitigating global warming potential of a double-rice field in China”.
2. Line 35, (WMO, 2014) can be renewed to (WMO, 2015). Also (WMO, 2015) should

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be listed in References.

3. Line 45, (FAOSTAT, 2013), same as above.

4. Line 47, (Yearbook, 2013), same as above.

5. Line 78, before “In addition”, one recent paper (Biol. Fertil. Soils (2016) 52:739–748) can be referred here.

6. Line 103, (Soil Survey Staff, 1975) was not found in References.

7. Line 117-125, the management of rice straw from early rice season was not explained here.

8. Line 146, (Myhre, 2013) as not found in References. It should be (Myhre et al., 2013) or (IPCC, 2013).

9. Line 347, “Parashar et al., 1993” should be before “Cai et al., 2003”.

10. Line 467, delete “yr-1” before (Table 3).

11. Line 496, please check the subscript of N<sub>2</sub>O and CH<sub>4</sub> in this manuscript.

12. Line 497, it should be “Biol. Fertil. Soils,” not Biol. Fert. Soils.,”. The style of with or without DOI number should be consistent, for example, in line 525

13. Table 3, delete “yr-1” from the unit of GHGI.

14. Table 5, (Myhre, 2013) as not found in References. It should be (Myhre et al., 2013) or (IPCC, 2013).

15. Table 6, The C/N ratios of rice stubble increased after winter fallow season was easily understood, but it was confused readers why there were no data for NTD and NTND after late-rice harvest, and for TD and TND before early-rice transplanting.

16. Figure 4, putting NTD and NTND, and TD and TND in same bar graph were not suitable, there are independent treatments.

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