

# Supplementary Materials for Emissions of greenhouse gases and NO from rice fields and a peach orchard as affected by N input and land-use conversion

Pinshang Xu<sup>1</sup>, Zhaoqiang Han<sup>1</sup>, Jie Wu<sup>1</sup>, Zhutao Li<sup>1</sup>, Jinyang Wang<sup>1,2,\*</sup>, and Jianwen Zou<sup>1,2</sup>

<sup>1</sup> Jiangsu Key Laboratory of Low Carbon Agriculture and GHGs Mitigation, College of Resources and Environmental Sciences, Nanjing Agricultural University, Nanjing 210095, China;

<sup>2</sup> Jiangsu Key Lab and Engineering Center for Solid Organic Waste Utilization, Jiangsu Collaborative Innovation Center for Solid Organic Waste Resource Utilization, Nanjing Agricultural University, Nanjing 210095, China

\* Correspondence: Nanjing Agricultural University, Nanjing 210095, Jiangsu, China.  
tel.: +86 25 8439 6286; fax: +86 25 8439 5210; e-mail: jywang@njau.edu.cn (J. Wang)

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**Table S1** CH<sub>4</sub> and NO<sub>x</sub> emissions from other rice-wheat rotation studies in the middle and lower reaches of the Yangtze River used in this study

Site	Year	Fertilizer application rate kg N ha <sup>-1</sup>	CH <sub>4</sub> kg C ha <sup>-1</sup>	N <sub>2</sub> O kg N ha <sup>-1</sup>	NO kg N ha <sup>-1</sup>	Reference
Jiangsu	32°35'5"N,119°42'0"E	2004-2008	0	-1.16	0.91	0.15
			225	-1.2	3.08	0.79
Nanjing	31°52'N,118°50'E	2002-2003	0	2.84		Zou J, Huang Y, Lu Y, et al.,2005
			300	7.27		
Wuxi	31°37' N, 120°28' E	2003-2004	0	0.96	0.29	Deng J, Zhou Z, Zheng X, et al.,2012
			300	9.58	13.4	Lan T, Zhang H, Han Y, et al.,2021
Huai'an	32°43'-34°06'N,118°12'-119°	2011-2013	0	11.5	8.54	4.47
			300	1.91	2.22	Gao X, Deng O, Ling J, et al.,2018
Yixing	31°07'-31°37'N,119°31'-120°C	2011-2012	0	3.35	3.92	
			300	0	1.77	2.36
Huai'an	32°43'-34°06'N,118°12'-119°	2011-2012	0	3.93	3.49	
			300	0	1.28	0.75
Changshu	31°32'93"N,120°41'88"E	2009-2010	0	6.59	4.53	Ma Y C, Kong X W, Yang B, et al.,2013
			180			

Zou J, Huang Y, Lu Y, et al. Direct emission factor for N<sub>2</sub>O from rice–winter wheat rotation systems in southeast China[J]. Atmospheric Environment, 2005, 39(26): 4755-4765.

- Deng J, Zhou Z, Zheng X, et al. Annual emissions of nitrous oxide and nitric oxide from rice-wheat rotation and vegetable fields: a case study in the Tai-Lake region, China[J]. Plant and soil, 2012, 360(1): 37-53.
- Lan T, Zhang H, Han Y, et al. Regulating CH<sub>4</sub>, N<sub>2</sub>O, and NO emissions from an alkaline paddy field under rice-wheat rotation with controlled release N fertilizer[J]. Environmental Science and Pollution Research, 2021, 28(14): 18246-18259.
- Gao X, Deng O, Ling J, et al. Effects of controlled-release fertilizer on nitrous oxide and nitric oxide emissions during wheat-growing season: field and pot experiments[J]. Paddy and water environment, 2018, 16(1): 99-108.
- Ma Y C, Kong X W, Yang B, et al. Net global warming potential and greenhouse gas intensity of annual rice-wheat rotations with integrated soil-crop system management[J]. Agriculture, ecosystems & environment, 2013, 164: 209-219.
- Yao Z, Zheng X, Wang R, et al. Greenhouse gas fluxes and NO release from a Chinese subtropical rice - winter wheat rotation system under nitrogen fertilizer management[J]. Journal of Geophysical Research: Biogeosciences, 2013, 118(2): 623-638.