

Jingyan Jiang

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Education:

- Ph.D., Nanjing Agricultural University; Ecology, 2009
- M.A., Nanjing Agricultural University; Environmental Engineering, 2001

Research interests and expertise:

My research has examined Greenhouse Gas emission in farmland. This includes the production and consumption of N₂O and CH₄ in soils, the effects of field managements of fertilizer and other agrochemicals and water on CH₄ and N₂O emissions. Currently, I focus on the effect of single and combined pollution of veterinary antibiotics on soil carbon and nitrogen cycling and CH₄ and N₂O emissions with or without the application of pig manure, and try to clarify the impact of veterinary antibiotics on the soil CH₄ generation-oxidation, N₂O generation- reduction and the response mechanism of soil microorganism related to carbon and nitrogen cycle to the input of antibiotics. I have discovered that herbicides can reduce greenhouse gas (N₂O and CH₄) emissions from rice-wheat cropping systems. Moreover, lowering N input and combined application of different fertilizers such as increasing potassium input, or using urea ammonium as topdressing, or using organic fertilizer as basal fertilizer tend to improve nitrogen use efficiency, reduce total direct + indirect Greenhouse Gases emissions, and maintain the grain yields.

Current projects:

- National Science Foundation of China (Nos. 41675148), Effect of veterinary antibiotics alone and in combination on CH₄ and N₂O emissions from agricultural soil and its mechanism, 2017-20, ¥730,000

Current teaching:

- Environmental Engineering experiment: Part II ; 27hrs, autumn term
- Environmental Science experiment: Part II ; 36hrs, autumn term
- Environmental monitoring; 54hrs, autumn term

Selected publications:

- Jiang J.Y., Fan H., Pang B., Zhang J., Li Z., Jiang S., Wu J. Assessment of reactive nitrogen mitigation potential of different nitrogen treatments under direct-seeded rice and wheat cropping system. *Environmental Science and Pollution Research*, 2018, 25(20):20241-20254.
- Jiang J.Y., Chen L.M., Sun Q., Sang M. M., Huang Y. Application of herbicides is likely to reduce greenhouse gas (N₂O and CH₄) emissions from rice-wheat cropping systems, *Atmospheric Environ.*, 2015, 107: 62–69.
- Jiang J.Y., Sun Q., Chen L.M., Zou J.W. Effects of the herbicides butachlor and bensulfuron-methyl on N₂O emissions from a dry direct seeded rice field, *Nutr Cycl Agroecosyst*, 2014, 100:345–356.
- Hu Z.H. , Jiang J.Y., Chen S.T., Liu Q.H., Niu C.P. Effects of Enhanced UV-B Radiation on N₂O Emission in a Soil-Winter Wheat System. *Water Air Soil Pollut* ,2010, 213:493–499.
- Jiang J.Y., Hu Z.H., Sun W.J, Huang Y. Nitrous Oxide Emissions from Chinese Cropland Fertilized with a Range of Slow Release Nitrogen Compounds. *Agriculture, Ecosystems and Environment*. 2010, 135:216–225.