Online Supplemental Material

Comparisons of the effects of different drying methods on soil nitrogen fractions: Insights into emissions of reactive nitrogen gases (HONO and NO)

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Text S1 Description of soil sampling

Farmland soil samples were taken from an organic integrated rice-frog farming experimental site in Modern Agricultural Park of Qingpu (121°01′ E, 30 °57′ N), which was applied with organic fertilizer (Fang et al. 2019). Forest soil samples were taken from Shanghai Bay Forest Park (121 °41′ E, 30 °51′ N), with dominant plant species of Masson pine (*Pinus massoniana* L.) and Citron (*Citrus medica* L. var. *sarcodactylis* Swingle). Grassland soil samples were taken from a densely populated park of Shanghai Oriental Green Boat Base (121°01′ E, 31°06′ N), and the grass is planted as bermudagrass (*Cynodon dactylon* (L). Pers.), which is regularly watered and fertilized.

References

Fang, K., X. Yi, W. Dai, H. Gao, and L. Cao. 2019. "Effects of Integrated Rice-Frog Farming on Paddy Field Greenhouse Gas Emissions." *International journal of environmental research and public health* 16 (11): 1930. doi: 10.3390/ijerph16111930.

Table S1. Soil total organic carbon (TOC, %) and particle size fractions (%) from different land-use types. Clay: < 0.002 mm; silt: 0.002–0.05 mm; sand: > 0.05 mm. Data are shown as mean \pm standard deviation (n = 3).

	TOC (%)	Clay (%)	Silt (%)	Sand (%)
Farmland	2.08 ±0.01	0.3 ±0.0	94.2 ±0.5	5.5 ±0.5
Forest	1.21 ± 0.02	0.4 ±0.1	85.8 ±0.8	13.8 ±0.8
Grassland	2.21 ±0.01	0.0 ± 0.0	93.3 ±1.0	6.7 ±1.0



Figure S1. Spearman's rank correlation analysis showing a positive relationship between soil pH and microbial biomass nitrogen content.



Figure S2. Characteristic emission patterns of HONO (orange squares), NO (green circles) and NO₂ (blue triangles) from an oven-dried grassland soil as a function of soil water holding capacity (%).



Figure S3. Spearman's rank correlation analysis showing a positive relationship between the maximum soil HONO flux and NO_3^- -N content. The HONO flux data from two air-dried grassland soil samples were excluded due to their anomalously high values.