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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Supplementary Text S1, Table S1, and Figures S1–S3
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 ± 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 NO$_2$ (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.