

Supporting Information

Effects of slurry acidification on soil N₂O fluxes and denitrification

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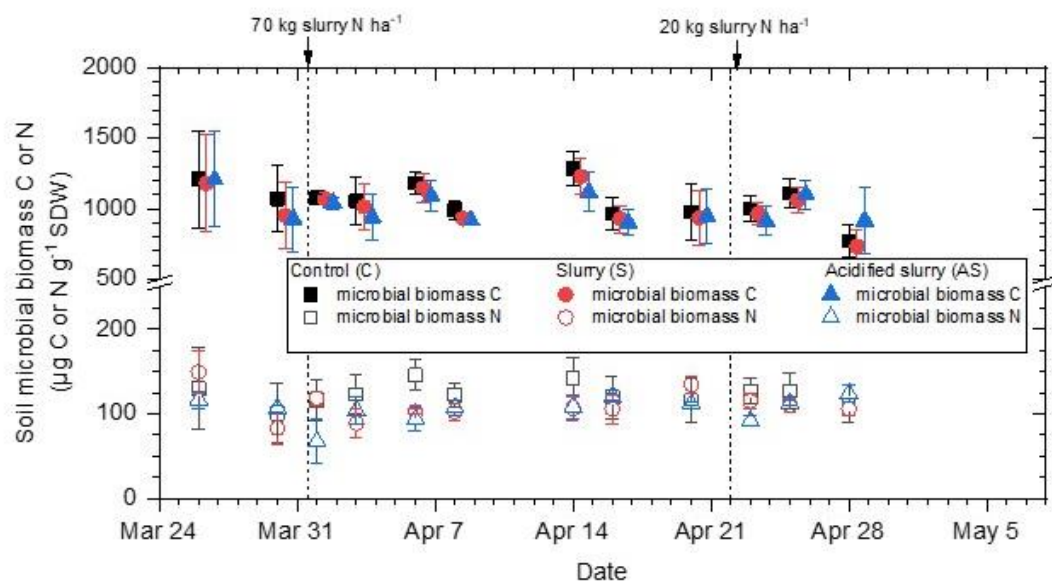
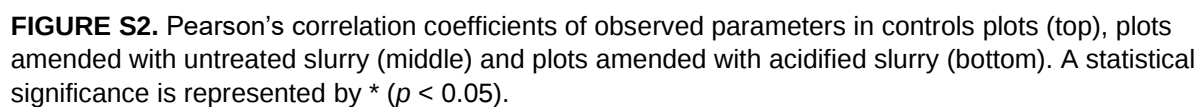


FIGURE S1. Changes of mean $\pm$ SE ($n = 4$) topsoil (0–5 cm) microbial biomass C and N concentrations across the observation period for the three investigated treatments. Dashed lines and arrows indicate dates of slurry applications to S and AS plots.



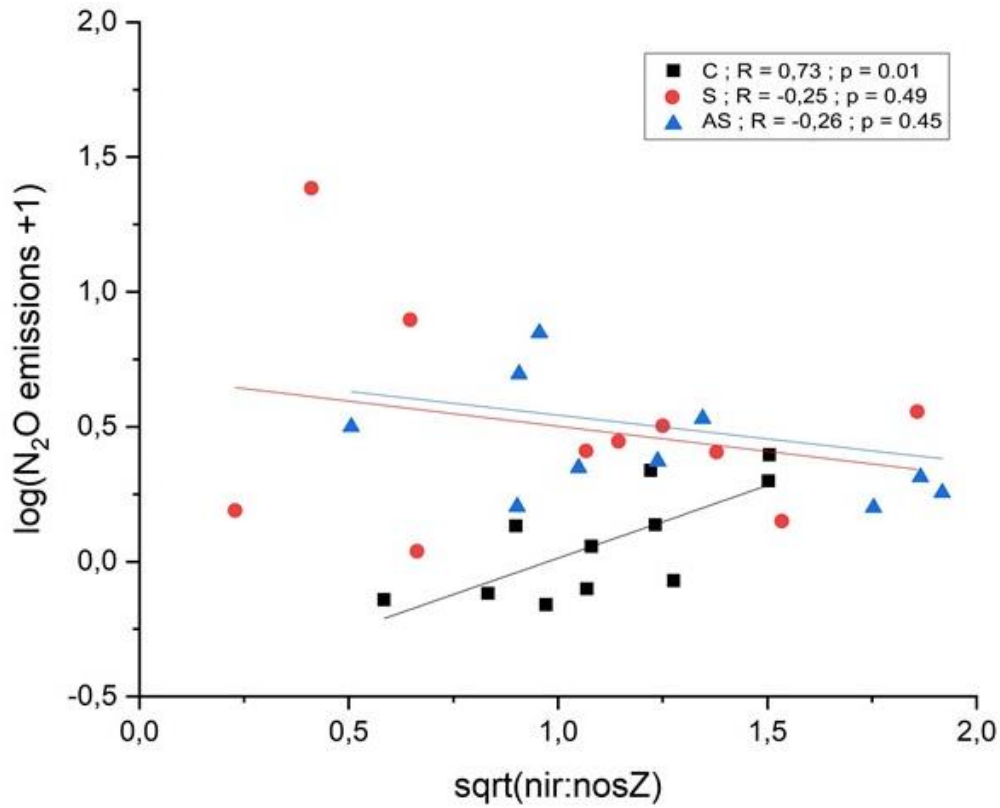


FIGURE S3. Correlations of N_2O emissions (log) and $\text{nir}(S+K): \text{nosZ}$ gene ratio (square root) representing all replicates for the three selected sampling dates (April 8th, April 20th and April 23rd, 2020) for each treatment.

TABLE S1. Primer set, thermal profiles and sources of positive standards used for real-time PCR.

Functional group	Target gene	Primer pair	Source of standard	Thermal profile	Nr. cycles	Fragment (bp)	References
Nitrite reduction	nirK	nirK876	<i>Azospirillum irakense</i>	95°C-15S	5/40	164	Braker et al., 1998; Henry et al., 2004
		nirK5R		62-58°C-30s			
				72°C-30s			
	nirS	Cd3aF	<i>Pseudomonas stutzeri</i>	94°C-45s	40	413	Michotey et al., 2000; Throbäck et al., 2004
		R3cd		57°C-45s			
				72°C-30s			
Nitrous oxide reduction	nosZ	nosZ2F	<i>Pseudomonas stutzeri</i>	95°C-15s	5/40	267	Henry et al., 2006
		nosZ2R		65-60°C-30s			
				72°C-30s			
Methanogenesis	mcrA			95°C-30s	40	470	Steinberg and Regan 2009
		mlas	<i>Geobacter metallireducens</i>	55°C-45s			
		mcrA-rev	GS-15	72°C30s / 95°C-15s			
				60°C-30s			
				95°C-15s			

TABLE S2. Statistical comparisons using parametric (ANOVA) or non-parametric (Kruskall-Wallis) tests, and Friedman ranking test ($n = 4$).

Data	Factor 1-way ANOVA* / Kruskal-Wallis** ($p < 0.05$)		
	Treatment	Date	WFPS
PDRs	0.484*	0.938*	0.000**
N ₂ O emissions	0.037*	0.442**	0.000**
Factors 2-way ANOVA ($p < 0.05$)			
	Treatment	Date	Interaction
PDRs	0.158	0.000	0.996
N ₂ O emissions	0.037	0.258	0.555
Factor Friedman ($p < 0.05$)			
	Treatment		
PDRs	0.046		
N ₂ O emissions	0.000		
CO ₂ emissions	0.000		
CH ₄ emissions	0.000		