

Supplementary Information (SI)

Table S1 Primer sequences of some key N cycling genes used for real time PCR

Target gene	Primer	Primer sequence 5'-3'	Thermal profile	Reference
AOA <i>amoA</i>	Arch-amoAF	STAATGGTCTGGCTTAGACG	94°C for 2 min followed by 40 cycles of 45 s at 94°C, 1 min at 53°C, 45 s at 68°C, plate read at 83°C	[1]
	Arch-amoAR	GCGGCCATCCATCTGTATGT		
AOB <i>amoA</i>	amoA-1F	GGGGTTTCTACTGGTGGT	95°C for 5 min followed by 35 cycles of 45 s at 95°C, 45 s at 55°C and 1 min at 72°C	[1]
	amoA-2R	CCCCTCKGSAAAGCCTTCTTC		
<i>nirS</i>	nirS cd3a F	GTSAACGTSAAGGARACSGG	95°C for 2 min × 1 cycle; 95°C for 45 s, 55°C for 45 s, 72°C for 45 s, 85°C for 20 s × 40 cycles	[2]
	nirS R3cd R	GASTTCGGRTGSGTCTTGA		
<i>nirK</i>	F1aCu	ATCATGGTSCTGCCGCG	95°C for 3 min × 1 cycle; 95 °C for 30 s, 58 °C for 40 s, 72 °C for 40 s, 83 °C for 15 s × 40 cycles	[3]
	R3Cu	GCCTCGATCAGRTTGTGGTT		

References

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2. Di, H.J.; Cameron, K.C.; Podolyan, A.; Robinson, A. Effect of soil moisture status and a nitrification inhibitor, dicyandiamide, on ammonia oxidizer and denitrifier growth and nitrous oxide emissions in a grassland soil. *Soil Biol. Biochem.* **2014**, *73*, 59-68. <https://doi.org/10.1016/j.soilbio.2014.02.011>
3. Wang, Q.; Hu, H.W.; Shen, J.P.; Du, S.; Zhang, L.M.; He, J.Z.; Han, L.L. Effects of the nitrification inhibitor dicyandiamide (DCD) on N₂O emissions and the abundance of nitrifiers and denitrifiers in two contrasting agricultural soils. *J. Soil. Sediment.* **2016**, *17*, 1635-1643. <https://doi.org/10.1007/s11368-016-1633-9>