Supplementary information

Investigation on the feasibility of straw incorporation to improve soil fertility without obviously increasing global warming potential

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Table S1 Primer sets and thermal programs for qPCR

Target gene		Primers (5'→3')	Expected size bp	Ta °C	Primer µM	Reference
Bacterial 16S rRNA	1369F	CGGTGAATACGTTCYCGG	123	58	0.3	(Eden et al., 1991; Weisburg et al., 1991; Suzuki et al., 2000)
	1492R	GGWTACCTTGTTACGACT				
Fungal 18S rRNA	nu-SSU-0817	TTAGCATGGAATAATRRAATAGGA	382	56	1.2	(Borneman and Hartin, 2000)
	nu-SSU-1196	TCTGGACCTGGTGAGTTTCC				
mcrA	mcrAF	GGTGGTGTMGGATTCACACARTAYGCWACAGC	491	56	0.3	(Springer et al., 1995; Luton et al., 2002)
	mcrAR	TTCATTGCRTAGTTWGGRTAGTT				
pmoA	A189F	GGNGACTGGGACTTCTGG	470	56	0.3	(Holmes et al., 1995; Costello and Lidstrom, 1999)
	mb661R	CCGGMGCAACGTCYTTACC				
nirS	cd3aF	GTSAACGTSAAGGARACSGG	423	60	0.3	(Michotey et al., 2000; Throbäck et al., 2004)
	R3cd	GASTTCGGRTGSGTCTTGA				
*nosZ*II	nosZII-F	CTIGGICCIYTKCAYAC	748	56	1.0	(Jones et al., 2013)
	nosZII-R	GCIGARCARAAITCBGTRC				

Ta = Annealing temperature. Thermal program: Step 1, pre-denaturation, 95°C, 2 min. Step 2, denaturation, 95°C, 15 s; annealing, Ta, 30 s; extension, 72°C, 30 s (for bacterial 16S rRNA, denaturation, 95°C, 5 s; annealing, Ta, 20 s; extension, 72°C, 20 s). Step 3, melting curve, 95°C, 15 s; 60 or 65°C, 15 s; 95°C continuous

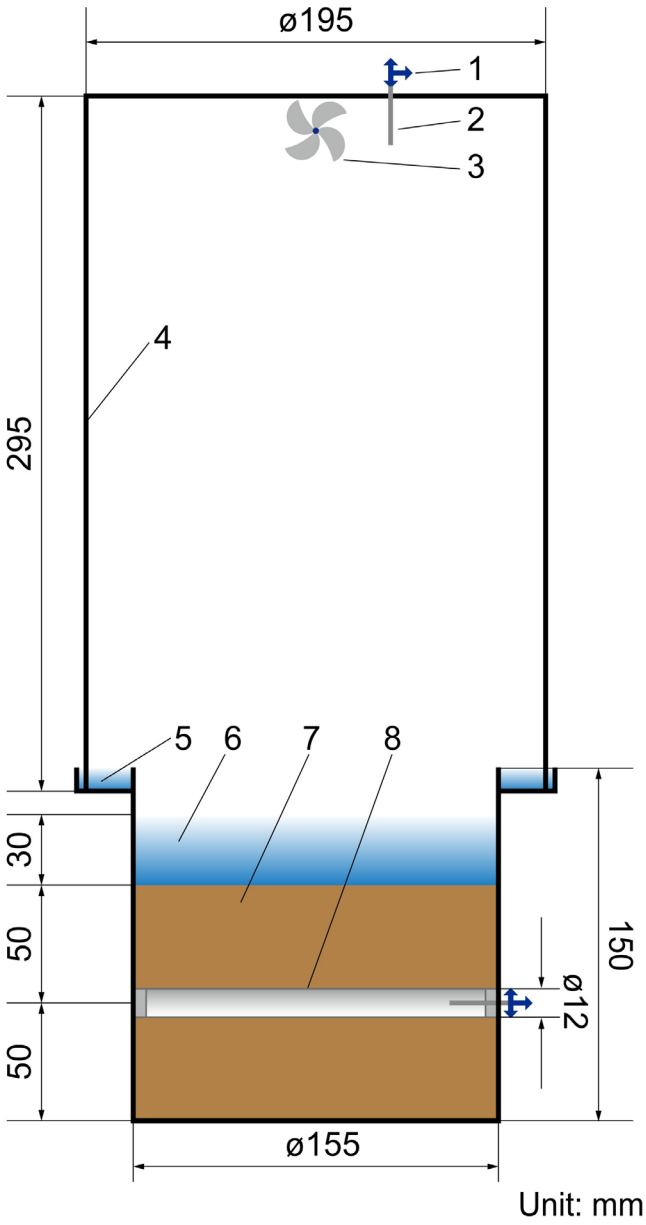

Fig. S1 Simplified diagram of the gas sampling pot. 1, three-way stopcock; 2, stainless steel tube; 3, electric fan; 4, static chamber; 5, water for sealing; 6, overlying water (during flooding); 7, soil; 8, gas–permeable silicone tube (with silicone rubber stoppers at both ends).

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