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Soil Research

Supplementary Material

Diversity and function of soil microorganisms in response to paddy–upland rotation system in sustainable restoration of saline-sodic soils

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Supplementary files

Table S1. Information of the high-throughput DNA sequencing library of the bacterial and archaeal communities in saline-sodic soil

Treatments	Bacteria			Fungi			Archaea		
	Valid tags	Valid percent	OTU counts	Valid tags	Valid percent	OTU counts	Valid tags	Valid percent	OTU counts
WL	32144±548	93.2%	1165±127 c	48492±7913	99.2%	172±39 c	21337±6295	93.8%	123±20 c
RF	27125±2716	98.0%	2323±181 b	41702±5103	98.0%	539±56 a	35659±334	89.6%	196±13 b
RR	27370±2079	95.9%	2724±321 a	38437±8736	98.4%	506±14 a	33943±2748	89.3%	272±12 a
RG	31309±796	97.9%	2368±107 b	36901±8028	99.2%	342±60 b	33732±3627	89.9%	186±21 b
RS	30347±859	95.4%	2492±95 ab	62717±19977	99.1%	373±45 b	35864±780	91.0%	203±22 b

Table S2. Comparison of the total irrigation water input, the last year's crop biomass, and the last year's crop yield between the paddy-upland rotation and the local farmer's planting system

Treatments	Total irrigation water input $\text{m}^3 \text{ha}^{-1}$	Biomass Kg ha^{-1}	Yield Kg ha^{-1}
RF	5800 ± 133 a	8350 ± 242 b	6300 ± 379 b
RR	11700 ± 502 c	8682 ± 529 a	6750 ± 245 b
RG	7100 ± 407 b	9500 ± 794 a	6100 ± 197 a
RS	7100 ± 620 a	7100 ± 580 a	5300 ± 252 d
Planting ryegrass for 4 years (famer' field)	5200 ± 160 b	7200 ± 548 a	4500 ± 500 b
Planting sorghum for 3 years (famer' field)	3900 ± 113 b	6200 ± 351 b	4050 ± 168 a

Note: Values are means ± standard error for triplicate replicates. Different lowercase letters indicate significant differences with a P value < 0.05 based on the analysis of variance.

Table S3. Properties of irrigation water

Index	Unit	Value
pH	-	7.9
EC _w	(dS m ⁻¹)	0.12
Ca ²⁺	(mmol _c L ⁻¹)	1.14
Mg ²⁺	(mmol _c L ⁻¹)	0.74
K ⁺	(mmol _c L ⁻¹)	0.07
Na ⁺	(mmol _c L ⁻¹)	1.72
HCO ³⁻ +CO ₃ ²⁻	(mmol _c L ⁻¹)	2.01
Cl ⁻	(mmol _c L ⁻¹)	3.4
SO ₄ ²⁻	(mmol _c L ⁻¹)	1.45