

Table S1. Outline of paddy rice cropping management.

Year	Treat- ment	Paddy rice cropping management (month/day)											Total fertilizer nitrogen (gN m ⁻²)	Carbon input ⁴ (gC m ⁻²)
		Plowing	Basal fertilizer	Water injection	Puddl- ing 1st ¹	Puddl- ing 2nd ²	Trans- planting	Midsu- mmer drainage	Topdressing at panicle formation stage	Pre- harvest drainage	Harvest	Incorpora ted rice straw		
2012–2013	CP	5/13	5/13	5/13	5/13	5/15	5/17	6/20–7/2	7/5	8/25	9/6	11/1	7(4-3) ³	297
2013–2014	CP	4/24	4/24	4/25	4/25	4/30	5/2	6/16–6/23	6/27	8/19	9/8	11/12	7(4-3)	274
2014–2015	CP	5/7	5/7	5/7	5/7	5/11	5/13	6/15–6/23	7/3	8/24	9/4	10/29	6(3-3)	310
2013–2014	PU	4/24	4/24	4/25	4/25	4/30	5/2	6/16–6/23	6/27	8/19	9/8	11/12	3(0-3)	308
2014–2015	PU	5/7	5/7	5/7	5/7	5/11	5/13	6/15–6/23	7/3	8/24	9/4	10/29	6(3-3)	308

¹The day after water injection. ²2 days before transplantation. ³Show each time of fertilization. ⁴Annual amount of incorporated rice straw. 2012 in CP: 268 gC m⁻².

Table S2. Outline of wheat and soybean cropping management.

Year	Treat ment	Cropping management (month/day)											Total fertilizer Nitrogen (gN m ⁻²)		Carbon input ² (gC m ⁻²)	
		Wheat							Soybean				Wheat	Soybean	Wheat	Soybean
		Sow ing	Basal fertilizer	Additional fertilizer	Topdressing at panicle formation stage	Topdressing at ripening stage	Harvest	Incorpora ted residue	Sow ing	Basal fertilizer	Harvest	Incorpora ted residue				
2012–2013	PU	11/8	11/7	1/23	3/11	5/8	6/17	7/1	7/2	7/1	11/14	11/26	14 (6-2-2-4) ¹	2	182	138

Amount of incorporated rice straw (2012 before Wheat): 309 gC m⁻². ¹Show each time of fertilization. ²Wheat: Straw. Soybean: Stem and pod.