



Fig. S1 Daily average temperature and accumulated precipitation with days in each year from 2017 to 2019

Table S1 Biomass of the returned maize and rice straws from 2016-2019

Year	Biomass of returned straw (t·ha ⁻¹)	
	Maize	Rice
2016	-	5.89±0.30
2017	8.85±0.23	6.88±0.03
2018	9.19±0.48	7.09±0.04
2019	9.04±0.22	6.58±0.18

Table S2 Elements retention in the maize straws and their released proportion in the buried bag during the late rice growing period in 2018

Elements in maize straws	Total amount in the returned maize straws (kg ha ⁻¹)	Proportion of released element after burying (%)		
		30 d	63 d	85 d
C	4088.73±245.04 a	41.85±0.78 d	51.54±0.87 d	60.48±4.59 c
N	82.44±6.44 c	61.11±2.48 b	71.85±0.91 b	79.85±2.40 b
P	33.10±1.36 d	52.59±1.63 c	66.44±0.60 c	78.84±0.71 b
K	106.49±8.93 b	74.23±0.66 a	91.30±0.88 a	95.27±0.42 a

Values are mean ± standard errors. Different letters in a column indicate significant differences among different elements at $p < 0.05$

Table S3 Elements retention in the late rice straws and their released proportion in the buried bag during the fallow period between 2018 and 2019

Elements in rice straws	Total amount in the returned rice straws (kg ha ⁻¹)	Proportion of released element after burying (%)		
		35 d	60 d	120 d
C	3115.01±32.02 a	27.14±1.62 b	38.86±2.08 b	51.95±2.91 b
N	58.33±0.83 c	28.40±1.33 b	34.81±4.85 b	46.90±1.23 c
P	27.54±0.33 d	23.38±0.96 c	33.14±3.28 b	53.96±2.79 b
K	81.79±2.66 b	50.05±3.51 a	89.36±1.76 a	96.07±0.28 a

Values are mean ± standard errors. Different letters in a column indicate significant differences among different elements at $p < 0.05$