

## Supplementary Materials

Table S1 Details of sampling sites.

Sampling sites	Longitude	Latitude	Position description	pH	EC( $\mu$ S/cm)	OM(g/kg)	TN (g/kg)	AP(mg/kg)	AK(mg/kg)
NE_P	126°21'47"E	43°33'58"N	Jilin province, paddy soil	6.08	63	43.10	2.24	71.78	125.78
NE_M	126°28'01"E	43°38'42"N	Jilin province, maize field	4.66	777	33.40	1.81	23.45	153.8
NE_F	126°33'17"E	43°46'28"N	Jilin province, coniferous and broad-leaved mixed forest	5.80	1617	256.76	10.17	13.99	49.4
SW_P	102°48'00"E	30°6'18"N	Western Sichuan basin, paddy soil	6.96	103.5	54.39	2.321	20.60	99.41
SW_M	102°57'10"E	30°22'19"N	Western Sichuan basin, maize field	7.16	35.9	46.11	3.034	145.07	362.08
SW_F	102°49'49"E	30°14'46"N	Western Sichuan basin, subtropical evergreen broad-leaved forest	5.60	155.1	63.02	3.702	7.49	67.55