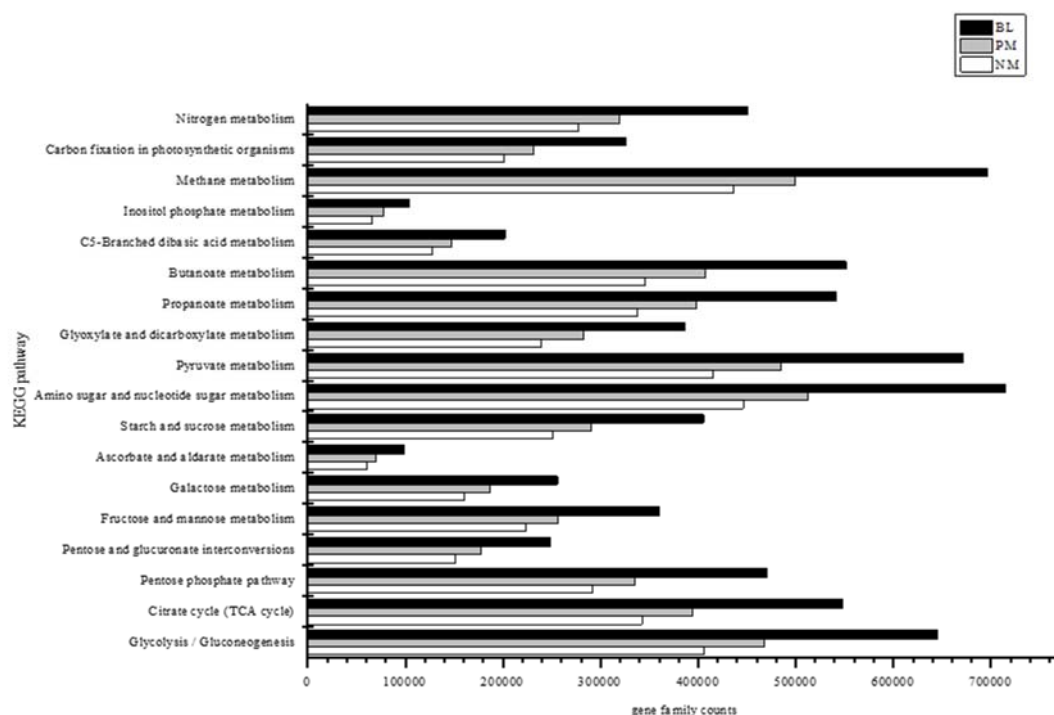


## Supplementary material

**Table S1.** The physical and chemical properties of the maize soil under different treatments.

Treat- ment	STN (g·kg <sup>-1</sup> )	PNM (mg·kg <sup>-1</sup> )	MBN (mg·kg <sup>-1</sup> )	NO <sub>3</sub> <sup>-</sup> -N (mg·kg <sup>-1</sup> )	NH <sub>4</sub> <sup>+</sup> -N (mg·kg <sup>-1</sup> )	SOC (g·kg <sup>-1</sup> )	MBC (mg·kg <sup>-1</sup> )
NM	1.31a	27.15a	31.32b	0.47a	2.64a	10.58a	273b
PM	1.31a	25.79a	34.36a	0.54a	2.74a	10.39a	273b
BL	1.26a	22.13a	35.14a	0.43a	2.81a	10.45a	366a

CK, non-mulched spring maize (control); PM, plastic-mulched spring maize; BL, bareland fallow. Values are mean ± SD (n = 3). Letters followed by different numbers within a column are significantly different at *p* < 0.05.



**Figure S1.** KEGG annotated carbon and nitrogen metabolic pathways of soil bacteria in a dryland field with three different treatments. NM: non-mulched spring maize (control); PM: plastic-mulched spring maize; BL: bareland fallow. n = 3 (NM, PM, BL).