



Combining *Robinia pseudoacacia* leaves and corn straw increased soil carbon storage and corn yield in Loess Plateau

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This file includes the following:

Fig. S1. Sample site location and experimental design.

Fig. S2. Changes in soil organic carbon(SOC) of each treatment at different growth stages of corn

Fig. S3. Changes in soil readily oxidized organic carbon(ROOC) of each treatment at different growth stages of corn

Fig. S4. Changes in soil microbial biomass carbon(MBC) of each treatment at different growth stages of corn

Fig. S5. Changes in soil recalcitrant organic carbon(ROC) of each treatment at different growth stages of corn

Fig. S6. Daily rainfall and temperature during the experimental period

Table S1. Basic physical-chemical properties of soil in the experimental field

Table S2. Corn grain yield

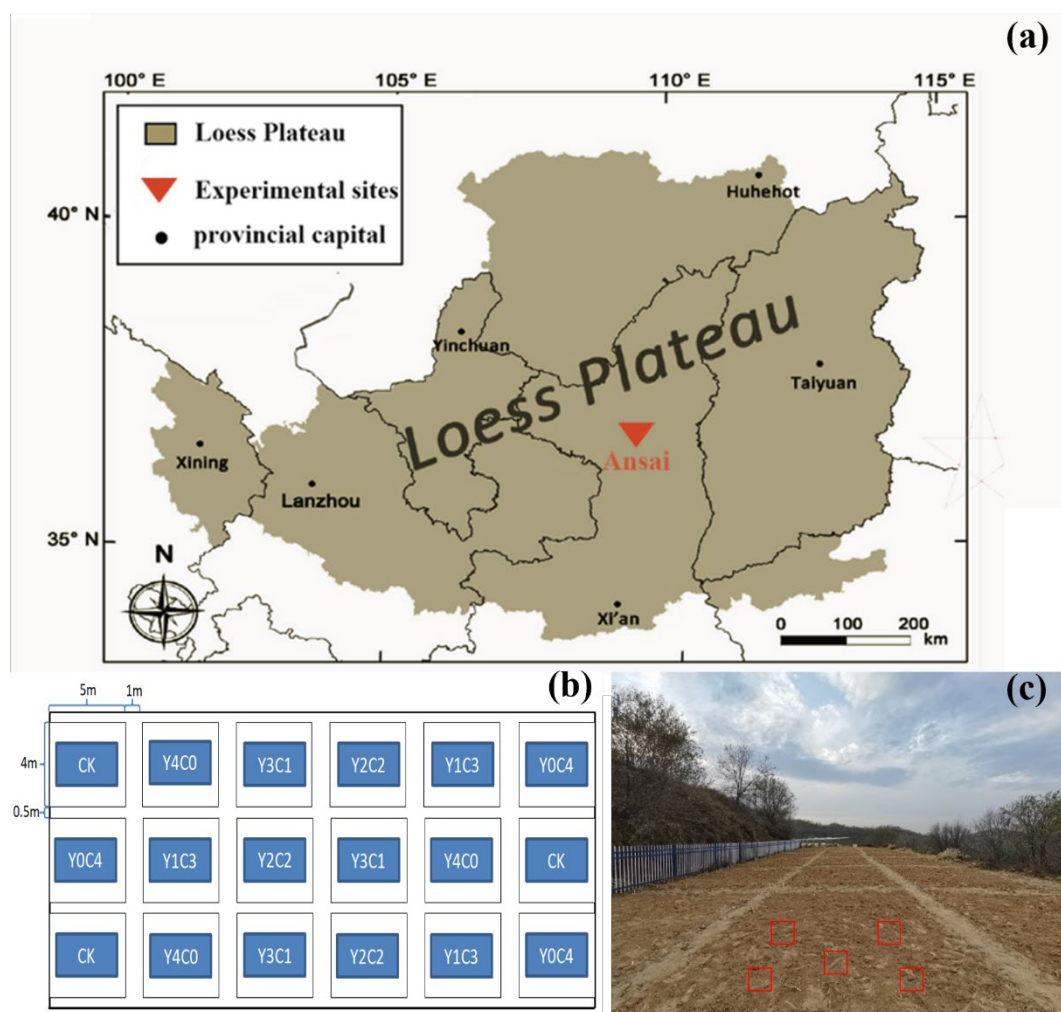


Fig. S1. Sample site location and experimental design. (a) Site locations on the Loess Plateau are shown by red triangle with site names. (b) Schematic drawing of the distribution of the sample plot. (c) Soil sampling at each treatment with five replicates.

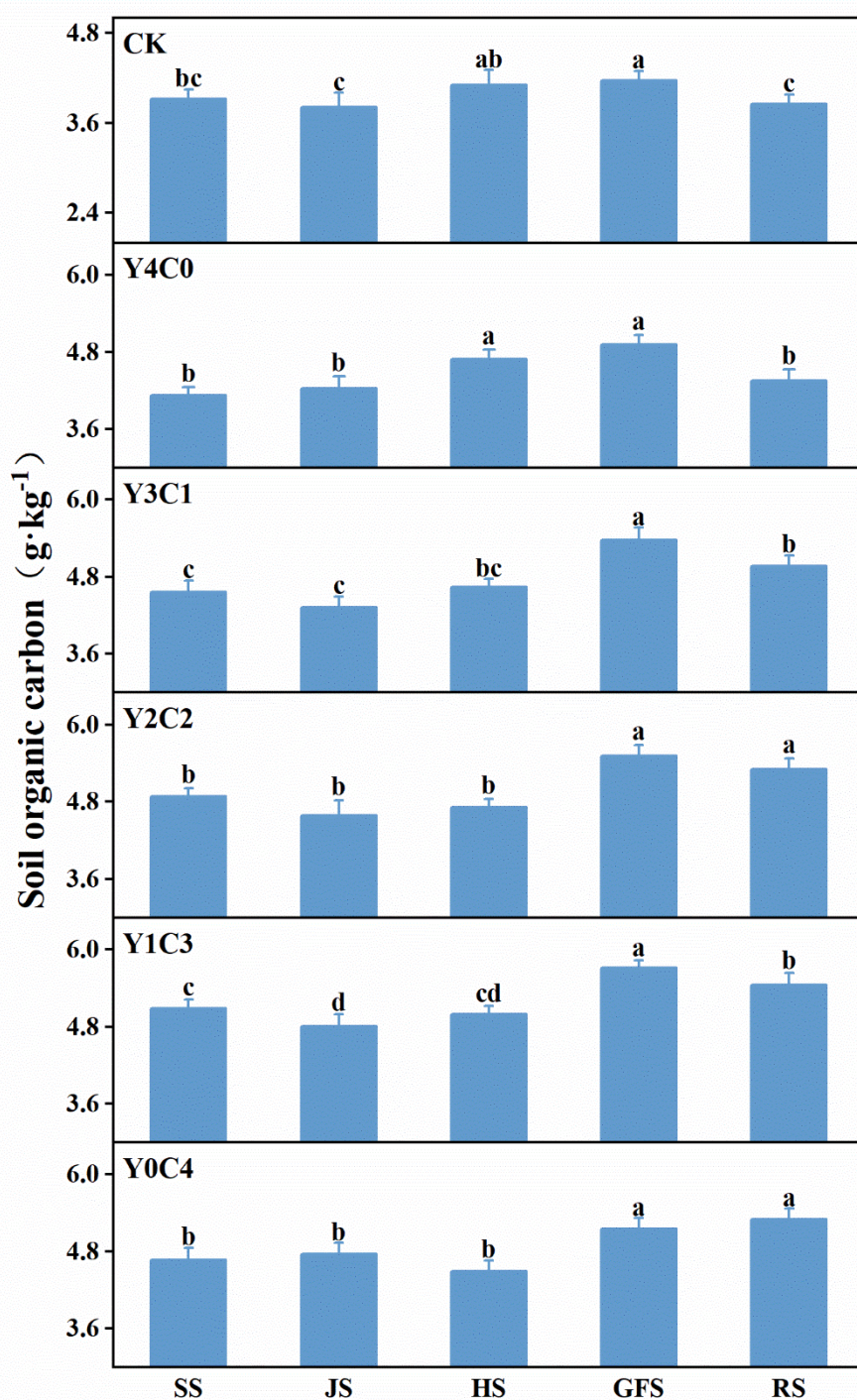


Fig. S2. Changes in soil organic carbon(SOC) of each treatment at different growth stages of corn

Note: Data that do not share a letter significantly differ between treatments ($P < 0.05$); SS: seedling stage, JS: jointing stage, HS: heading stage, GFS: grain filling stage, RS: ripening stage; Y4C0: corn straw only, Y3C1: combined application of three-quarters corn straw and one-quarter Robinia pseudoacacia leaves, Y2C2: half corn straw and half Robinia pseudoacacia leaves, Y1C3: combined application of three-quarters Robinia

pseudoacacia leaves and one-quarter corn straw, Y0C4: Robinia pseudoacacia leaves only, CK: without returning materials. the same below.

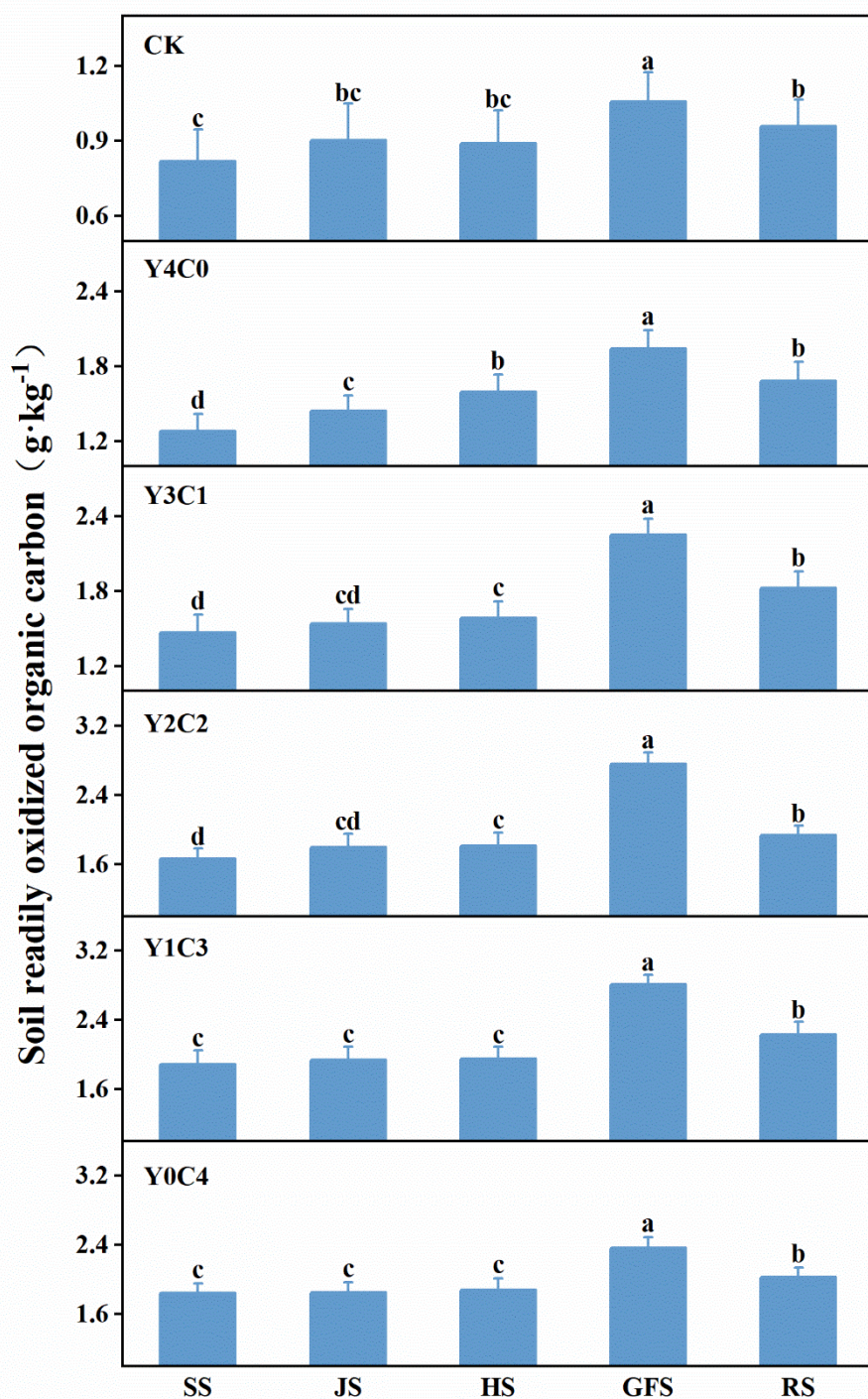


Fig. S3. Changes in soil readily oxidized organic carbon(ROOC) of each treatment at different growth stages of corn

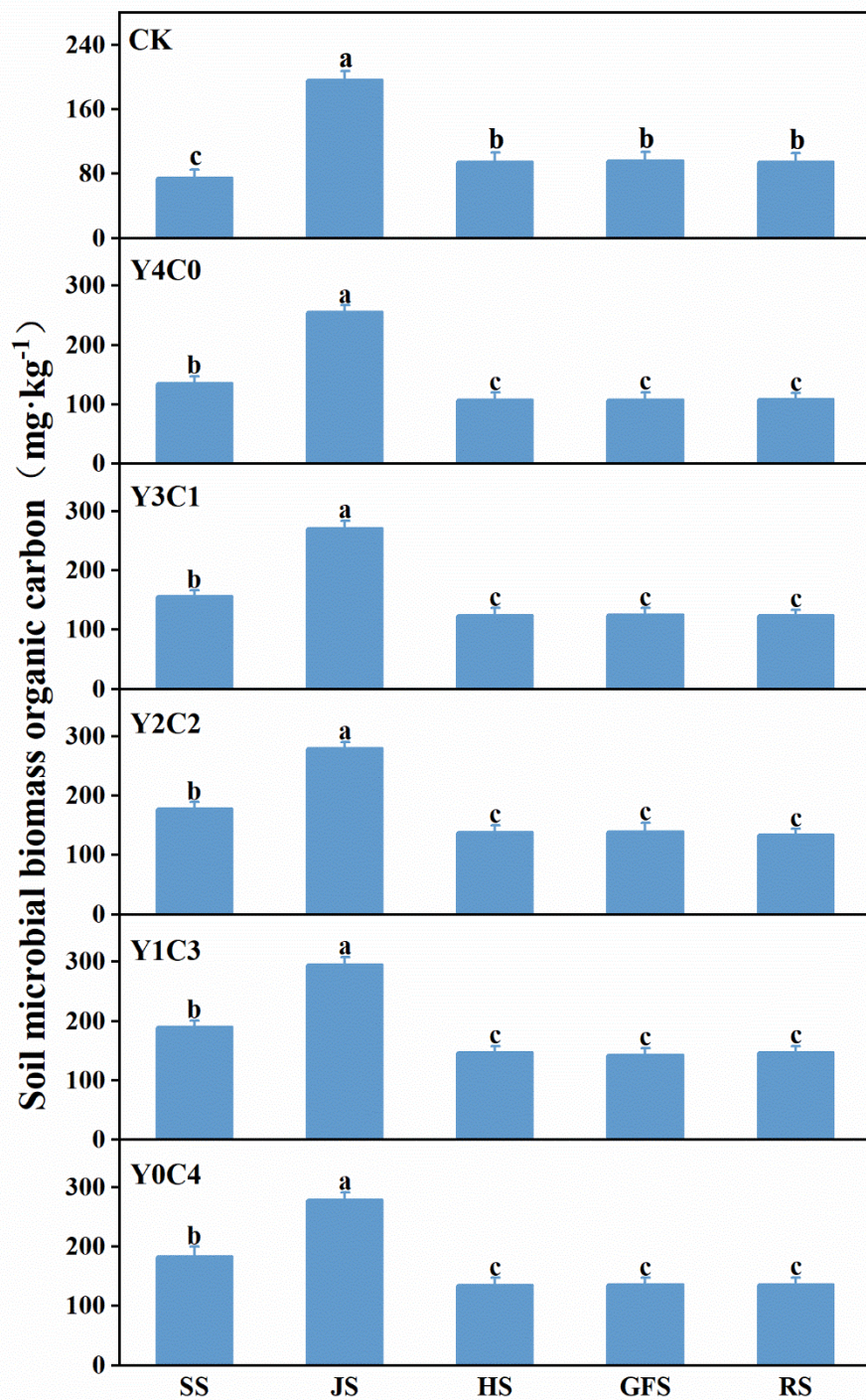


Fig. S4. Changes in soil microbial biomass carbon(MBC) of each treatment at different growth stages of corn

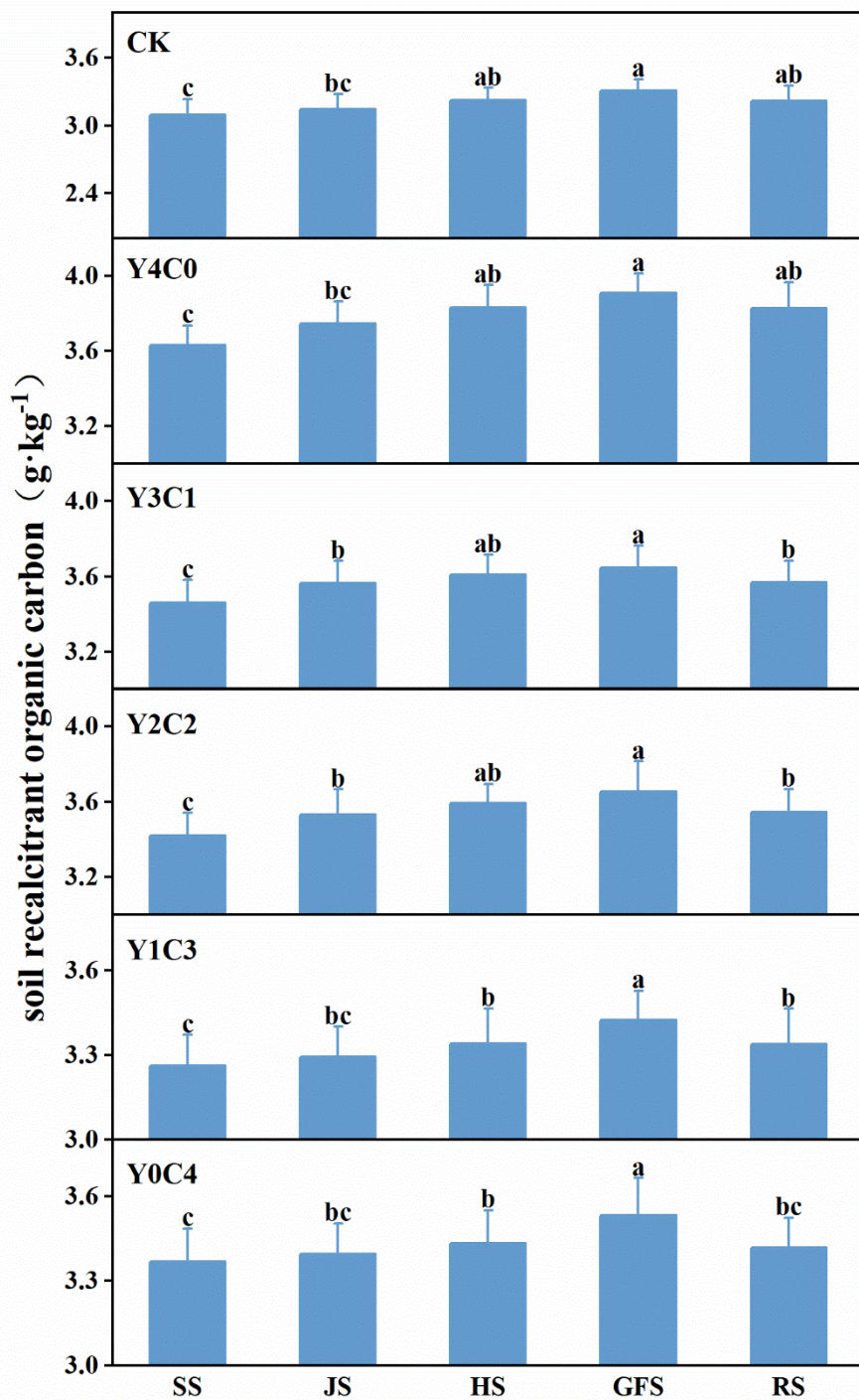


Fig. S5. Changes in soil recalcitrant organic carbon(ROC) of each treatment at different growth stages of corn

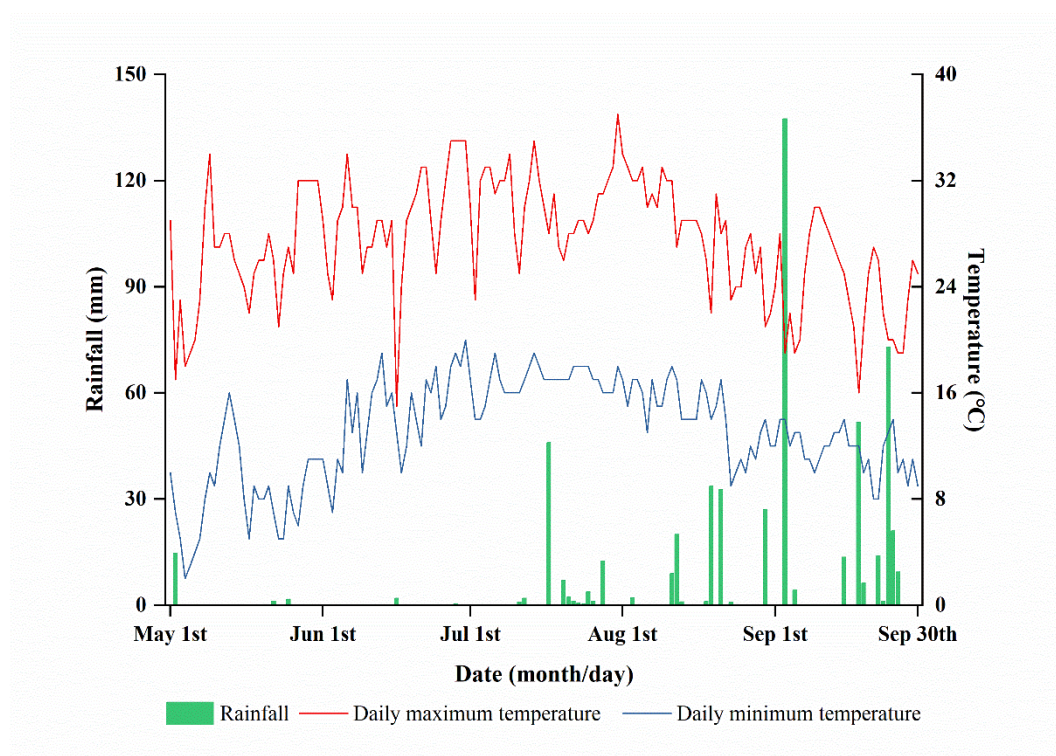


Fig. S6. Daily rainfall and temperature during the experimental period

Table S1. Basic physical-chemical properties of soil in the experimental field

Item	SWC (%)	BD (g·cm ⁻³)	pH	SOC (g·kg ⁻¹)	TN (g·kg ⁻¹)	TP (g·kg ⁻¹)
0-20cm	9.70±0.40	1.15±0.02	8.56±0.06	4.41±0.27	0.41±0.02	0.58±0.00

Note: The data are mean ± standard error. SWC: soil water content; BD: soil bulk density; SOC: soil organic carbon; TN: total soil nitrogen; TP: total soil phosphorus.

Table S2. Corn grain yield

Treatment	Yield (kg·hm ⁻²)	Compared to CK (%)
CK	7633.76±50.49e	—
Y4C0	8695.22±53.44d	13.90
Y3C1	9201.30±58.56c	20.53
Y2C2	9825.31±63.89b	28.71
Y1C3	10079.45±62.66a	32.04
Y0C4	9348.41±137.75c	22.46