

Soil organic carbon fractions comparison after 40-year long-term fertilisation in a wheat-corn rotation field

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Electronic Supplementary Material (ESM)

The authors are fully responsible for both the content and the formal aspects of the electronic supplementary material. No editorial adjustments were made.

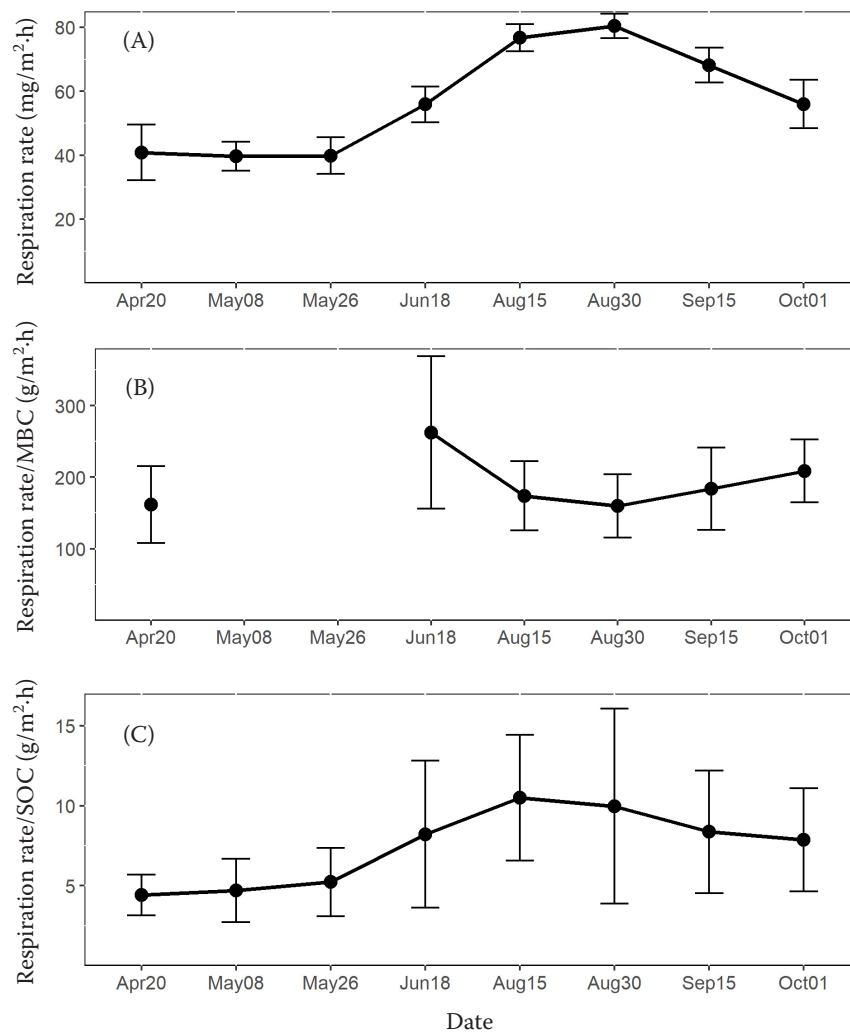


Figure S1. The mean values of the soil respiration rate (A), the ratio of the soil respiration rate and the microbial biomass carbon (MBC) (soil respiratory quotient) (B), and the ratio of the soil respiration rate and the total soil organic content (SOC) content of each sample time (C)

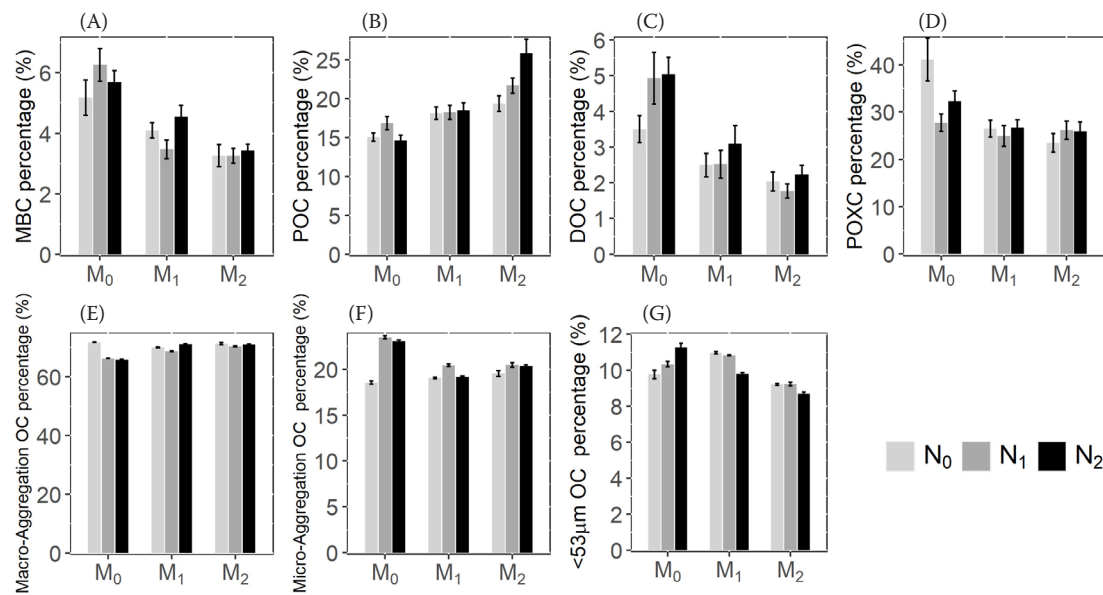


Figure S2. The mean percentage of the soil microbial biomass carbon (MBC) (A), particle organic carbon (POC) (B), dissolved organic carbon (DOC) (C), permanganate-oxidisable carbon (POXC) (D), macro-aggregation OC (E), micro-aggregation OC (F), the OC content of fraction < 53 μm in the different level of the manure and nitrogen treatments (G) N₀ – no N fertiliser addition; N₁ – low amount of N fertiliser addition; N₂ – high amount of N fertiliser addition; M₀ – no manure fertiliser addition; M₁ – low amount of manure fertiliser addition; M₂ – high amount of manure fertiliser addition

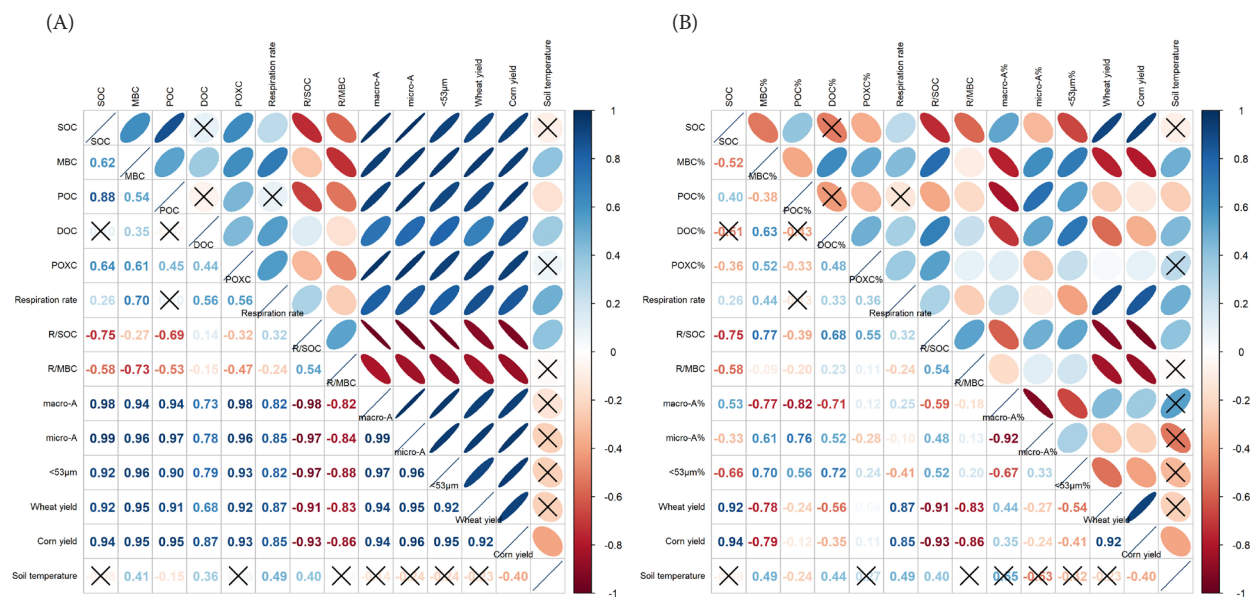


Figure S3. The relationships of the soil organic contents (SOC), soil temperature, crop yields, soil respiration rate, soil respiratory quotient, the ratio of the soil respiration rate and SOC: the contents of the soil microbial biomass carbon, particle organic carbon (POC), dissolved organic carbon (DOC), permanganate-oxidisable carbon (POXC), macro-aggregation OC (macro-A), micro-aggregation OC (micro-A) and the OC content of fraction < 53 μm (< 53 μm) (A); and percentages of the SOC fractions (B)

The correlation coefficients were scaled from white to dark blue for positive correlations and dark red for negative correlations; the numbers in the lower triangle are the correlation coefficients and the correlations with $P < 0.05$ were not considered significant (x)

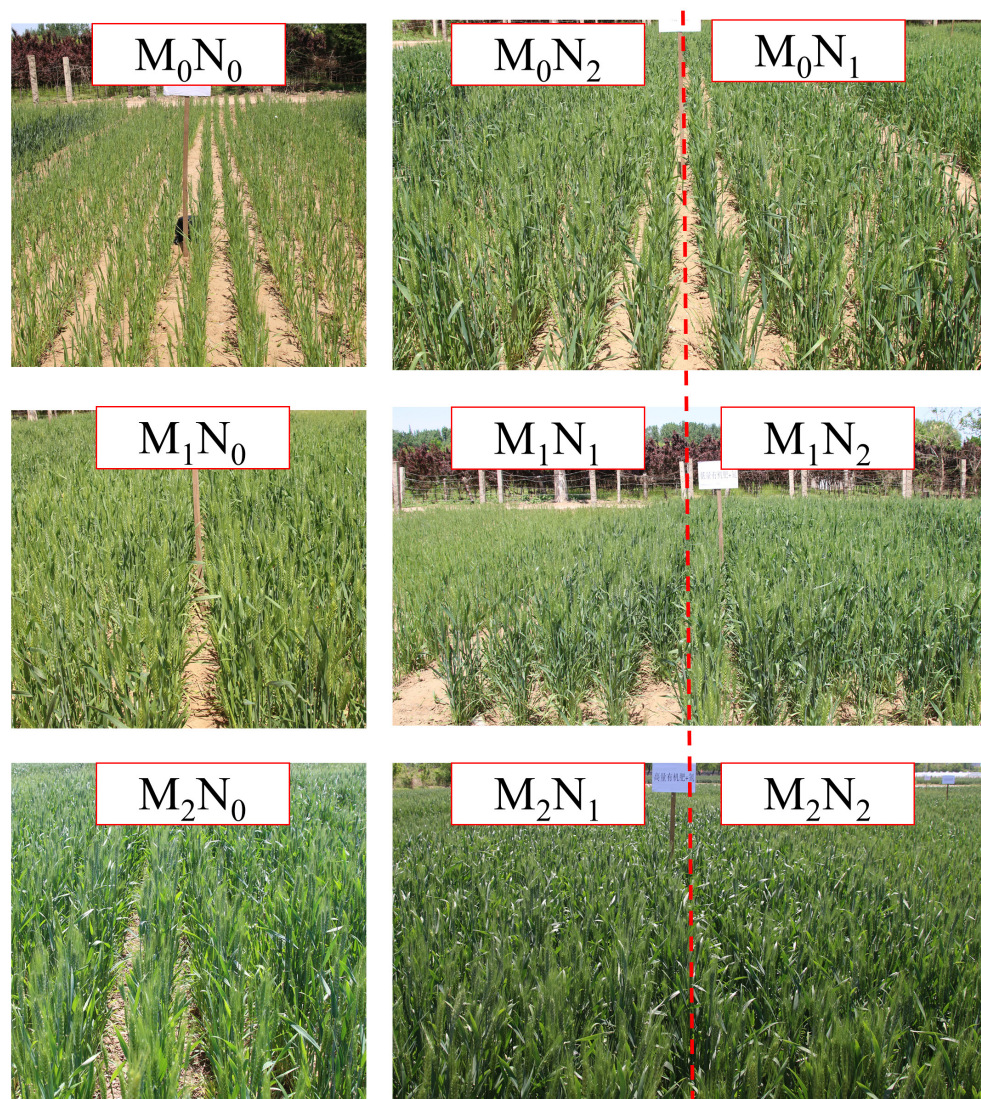


Figure S4. The photos of the winter wheat on May 5th in the Laiyang long-term field experiment station of the Qingdao Agricultural University in Laiyang, Shandong Province, China with the different levels of the manure and nitrogen treatments

N_0 – no N fertiliser addition; N_1 – low amount of N fertiliser addition; N_2 – high amount of N fertiliser addition; M_0 – no manure fertiliser addition; M_1 – low amount of manure fertiliser addition; M_2 – high amount of manure fertiliser addition