

Supplementary information

Title: Effect of nitrogen fertilizer on soil CO₂ emission depends on crop rotation strategy

Dejie Kong^{1,2,3}, Nana Liu⁴, Chengjie Ren^{1,3}, Huiying Li^{3,5}, Weiyu Wang^{1,3}, Na Li^{1,3}, Guangxin Ren^{1,3,*}, Yongzhong Feng^{1,3} and Gaihe Yang^{1,3,*}

¹ College of Agronomy, Northwest A & F University, Yangling 712100, China; kdj1982@nwsuaf.edu.cn (D.K.); rencj1991@nwsuaf.edu.cn (C.R.); 1283444910@qq.com (W.W.); 1356047275@qq.com (N.L.); fengyz@nwsuaf.edu.cn (Y.F.)

² Agricultural Biotechnology Center of NingXia Academy of Agriculture and Forestry Sciences, Yinchuan 750002, Ningxia, China

³ Research Center for Recycling Agriculture Engineering Technology of Shaanxi Province, Yangling 712100, China; 15148987951@163.com

⁴ Ningxia Agricultural Institute of Survey Design, Yinchuan 750002, China; 113101990@qq.com

⁵ Forest and Desert Control Research Institute of Alxa League, Alxa League 750306, Inner Mongolia, China

* Correspondence: ygh@nwsuaf.edu.cn (G.Y.); rengx@nwsuaf.edu.cn (G.R.)

***Corresponding author:**

E-mail: Yang Gaihe Yang, ygh@nwsuaf.edu.cn; Ren Guangxin Ren, rengx@nwsuaf.edu.cn;

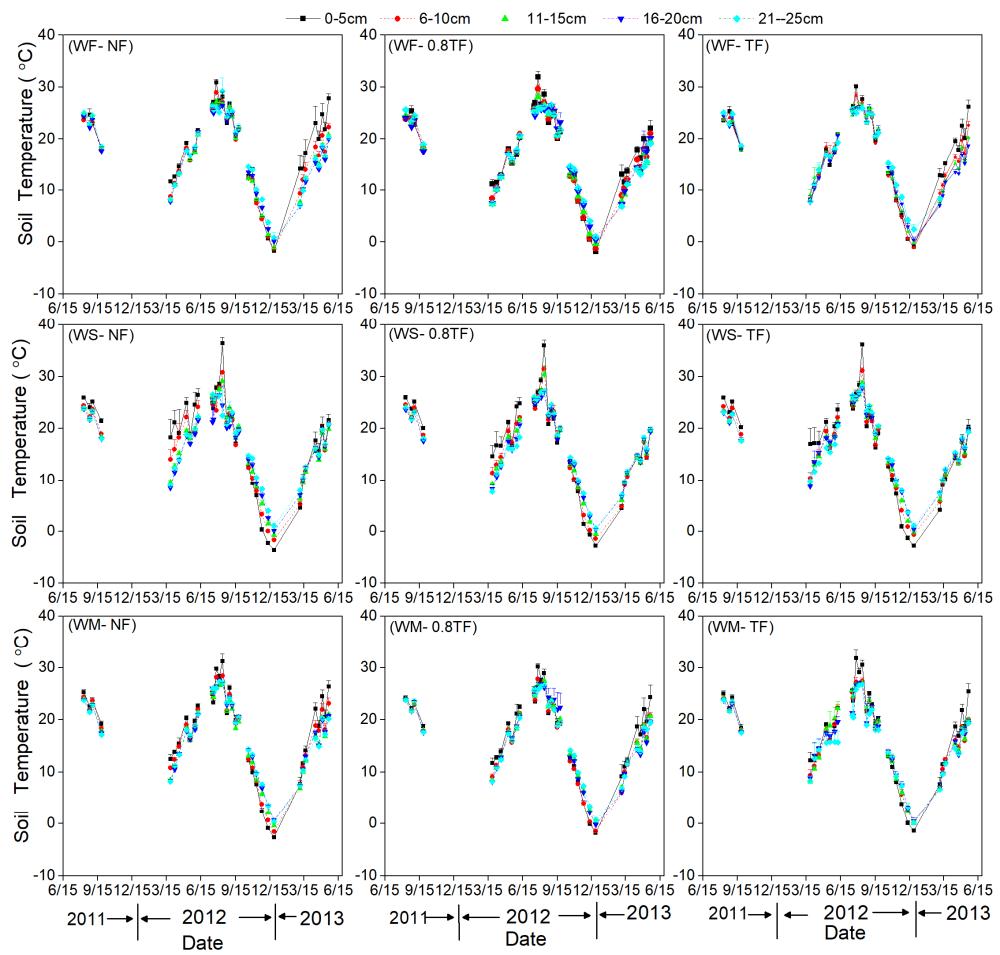


Figure S1: Changes in soil temperature under different crop rotations and N fertilizer treatments. Bars show means \pm s. e. m.

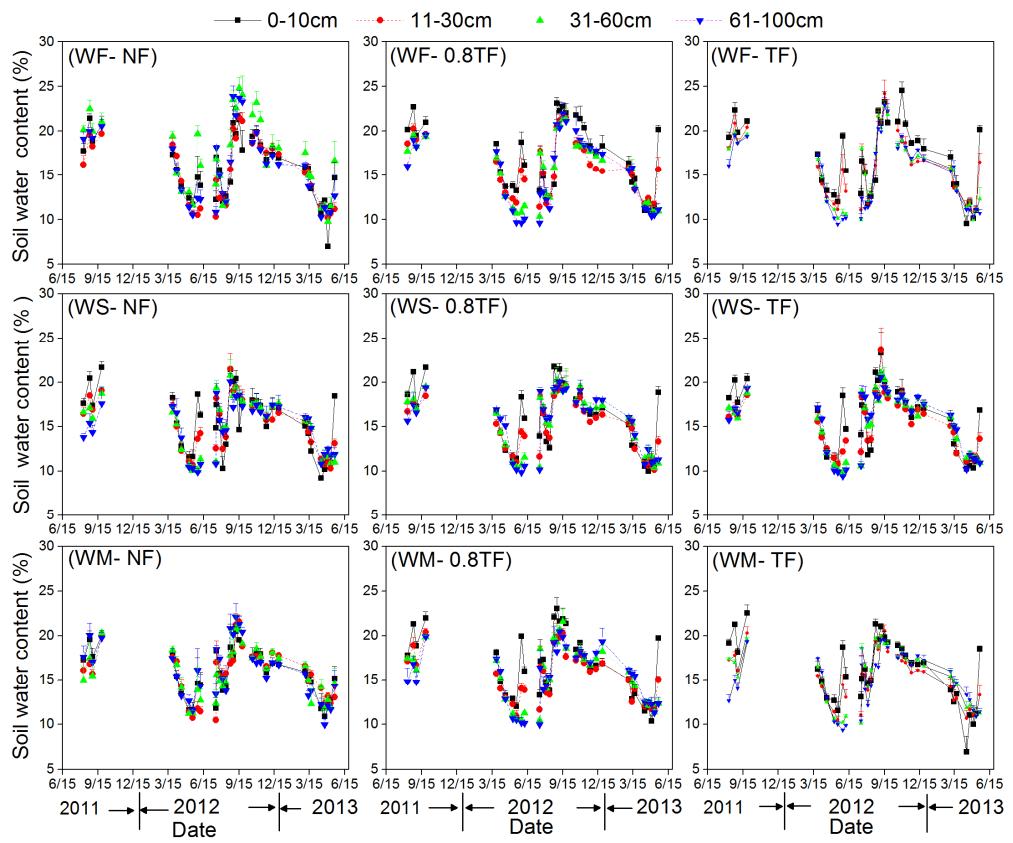


Figure S2: Changes in soil water content under different crop rotations and N fertilizer treatments.

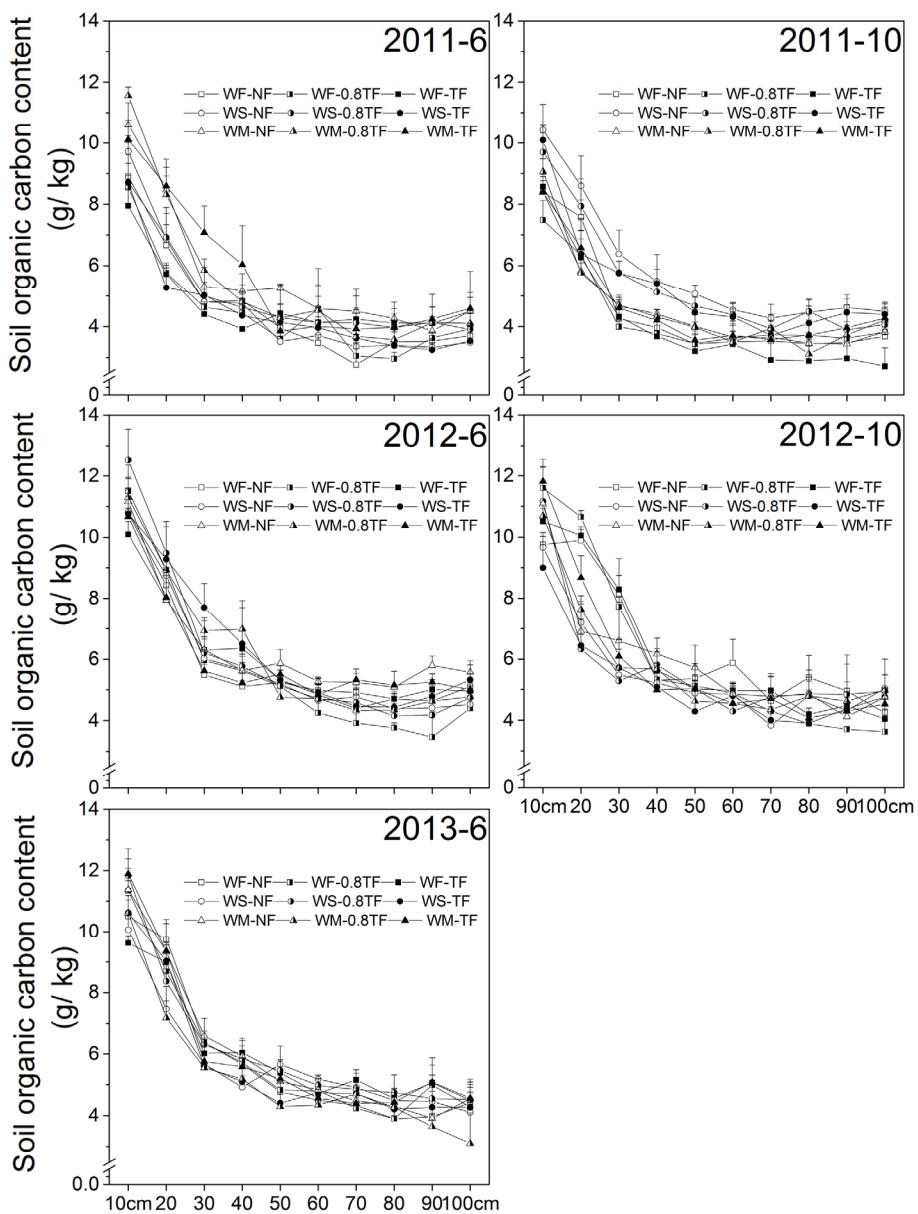


Figure S3: Soil organic carbon content of the 0-100 cm soil layer under three N fertilizer treatments and three rotation treatments.

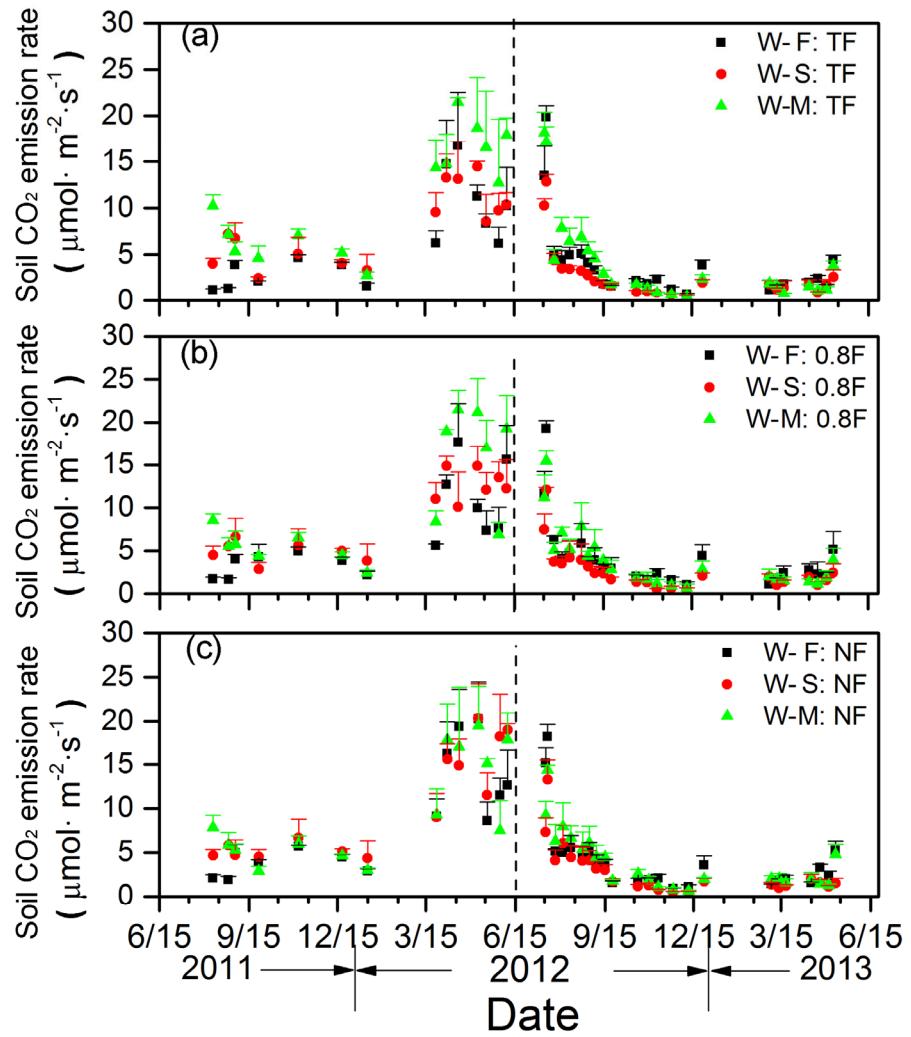


Figure S4: Changes in soil respiration rate under different crop rotations and fertilizer treatments. (a): soil respiration rate from the field of different crop rotation treatments under TF fertilizer application amounts. (b): soil respiration rate from the field of different crop rotation treatments under 0.8TF fertilizer application amounts. (c): soil respiration rate from the field of different crop rotation treatments under NF fertilizer application amounts.