

Figure S1: Methane oxidation of surface (0-10 cm) soils of (a) the palm plantation and (b) secondary forest of Bangburd Experimental Station, and (c) rubber plantation in Chachoeng Sao Rubber Research Center (CRRC) collected in August 2023 (wet season). The data of palm plantation represent the average and standard error of triplicate samples corrected from the sites with and without litter cover on the soil. The data of four forest soils were independently shown due to the large spatial variation. CRRC data represent the average and standard error of triplicate samples corrected from the sites with and without fertilizer applied.

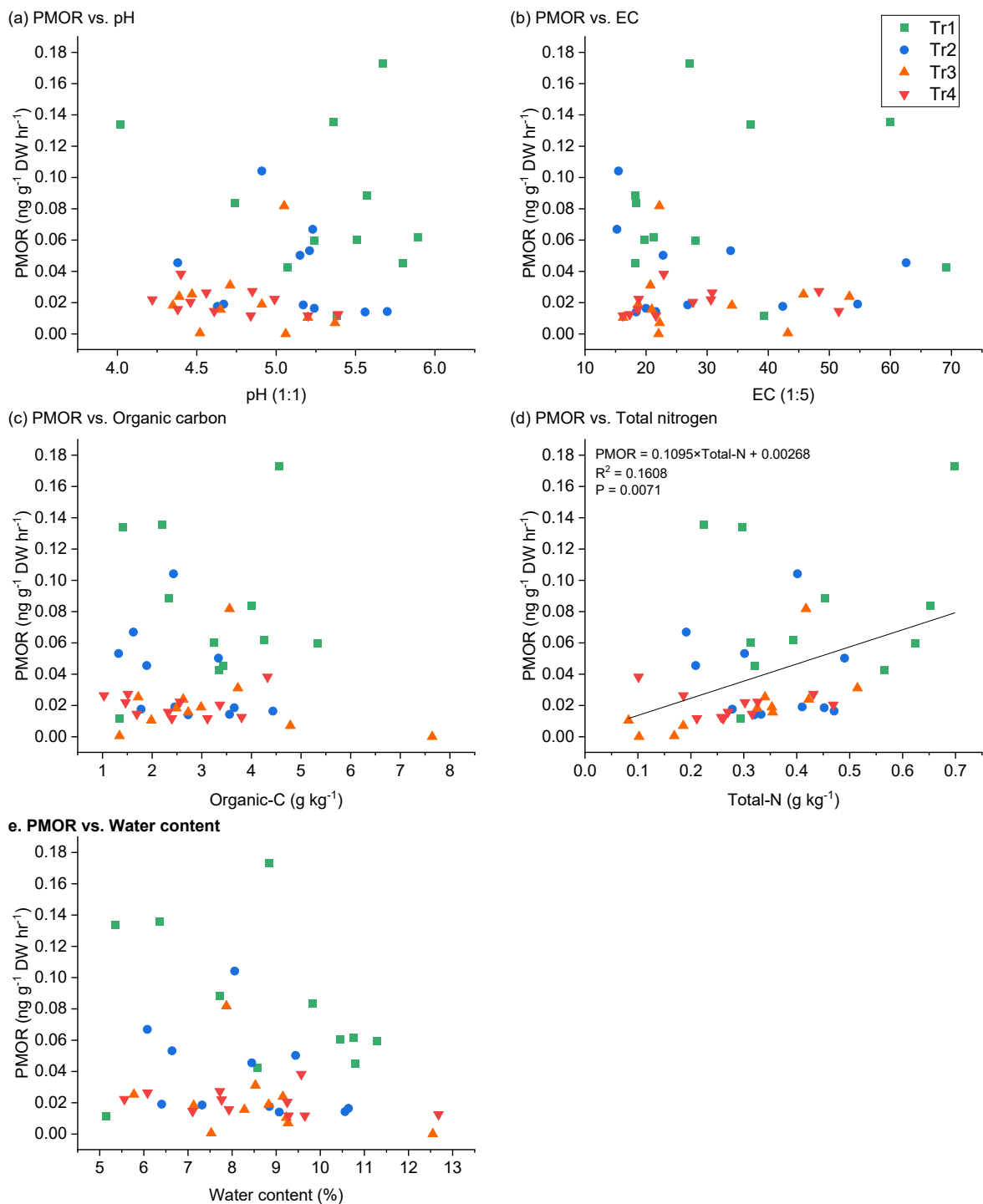


Figure S2: Interrelationship between potential methane oxidation rates and (a) pH, (b) EC, (c) organic carbon, (d) total nitrogen, and (e) water content of the surface (0-10 cm) soils in SKRS rubber plantation.

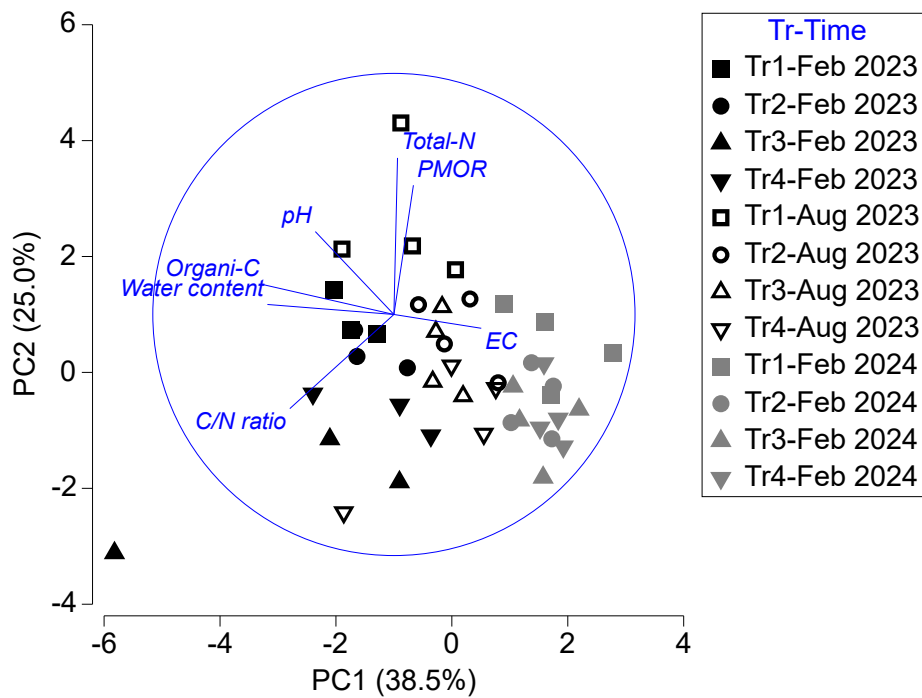


Figure S3: Results obtained by principal component analysis for the topsoils (0-10 cm) in para rubber plantation under different fertilizations in dry (February) and wet (August) seasons .

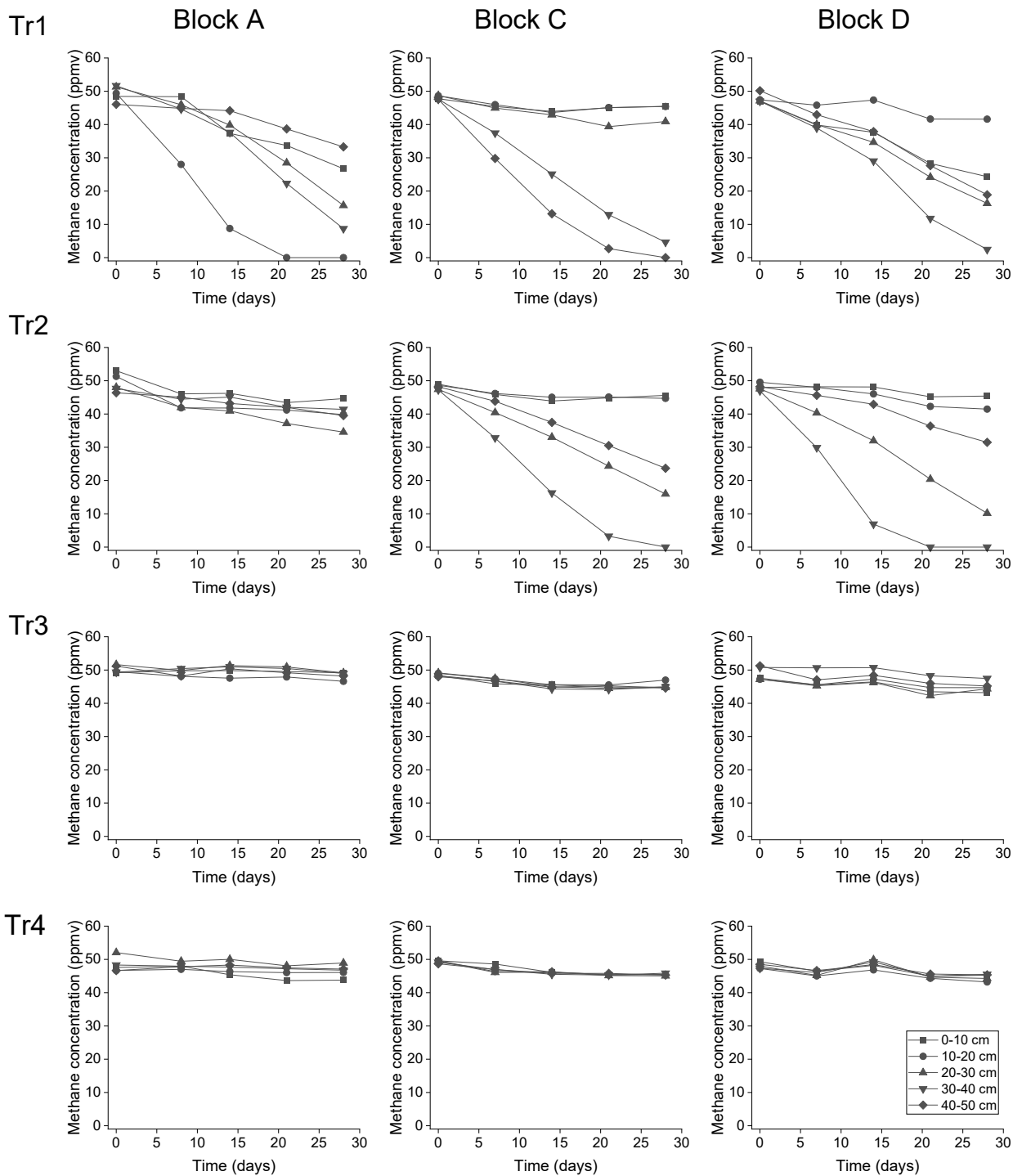


Figure S4: Methane consumption of soils with different depths in para rubber plantation under different fertilization levels. The soil samples were collected from the four replicate blocks in February 2024 (dry season), among which the data of block B is shown in Fig. 3

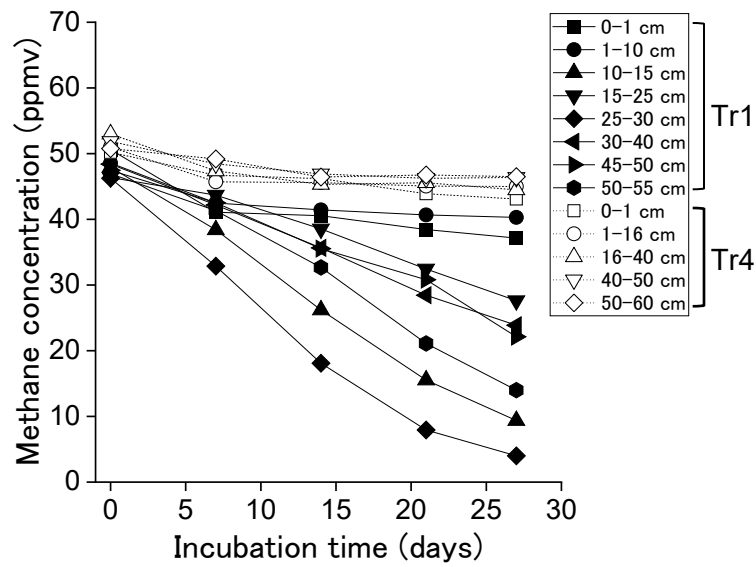


Figure S5: Methane oxidation of soils corrected from different depths in the rubber plantation (block B) in August 2023 (wet season).

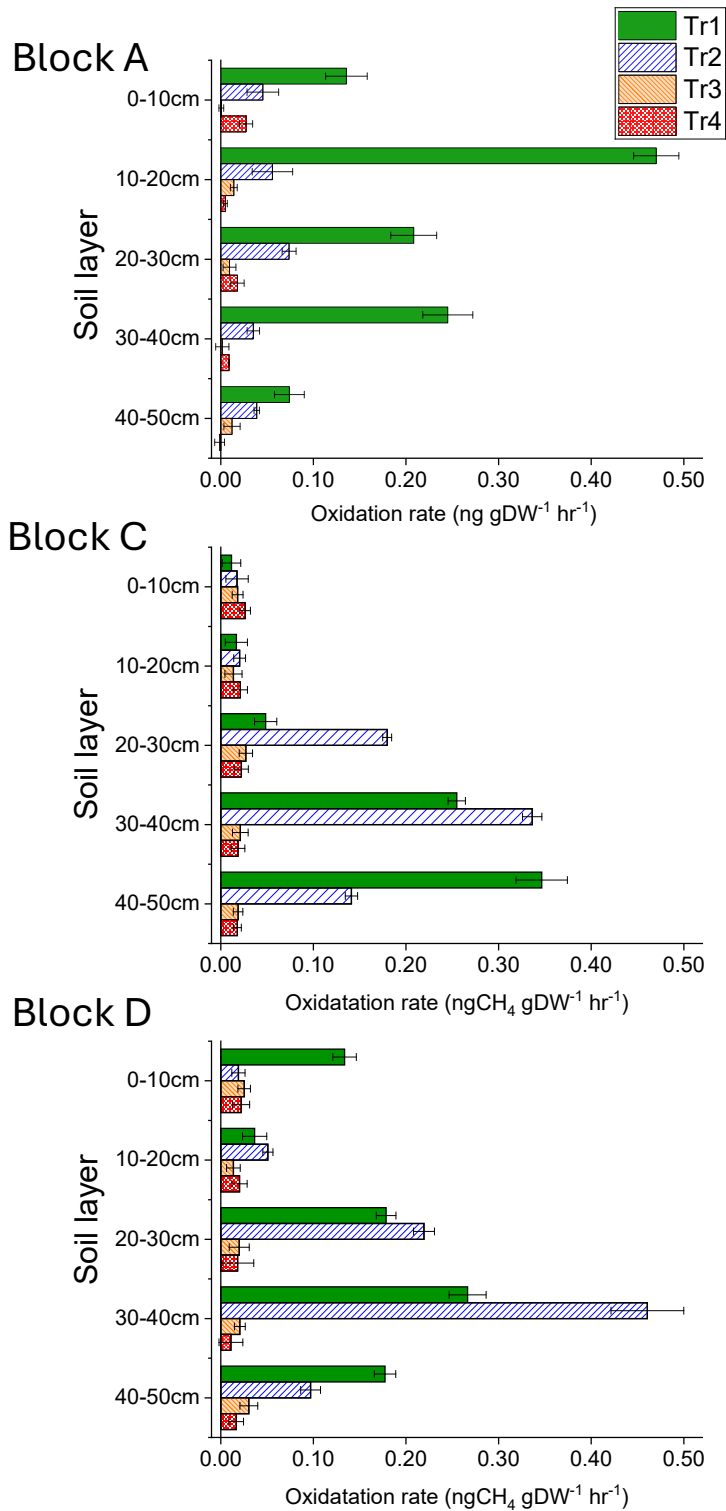


Figure S6: Depth profile of potential methane oxidation rate of soils with different depths in para rubber plantation under different fertilization levels. The soil samples were collected from the four replicate blocks in February 2024 (dry season), among which the data of block B is shown in Fig. 4