Figure S1: QQplot (a) and Residuals vs fitted values (b) of a linear model with OC_{S+C} (i.e. MAOC) as dependent variable and depth, organic residue, mineral fertilizer, clay content and silt content as independent variable. There is no sign of violation of data distribution normality nor homogeneity of variance assumption.
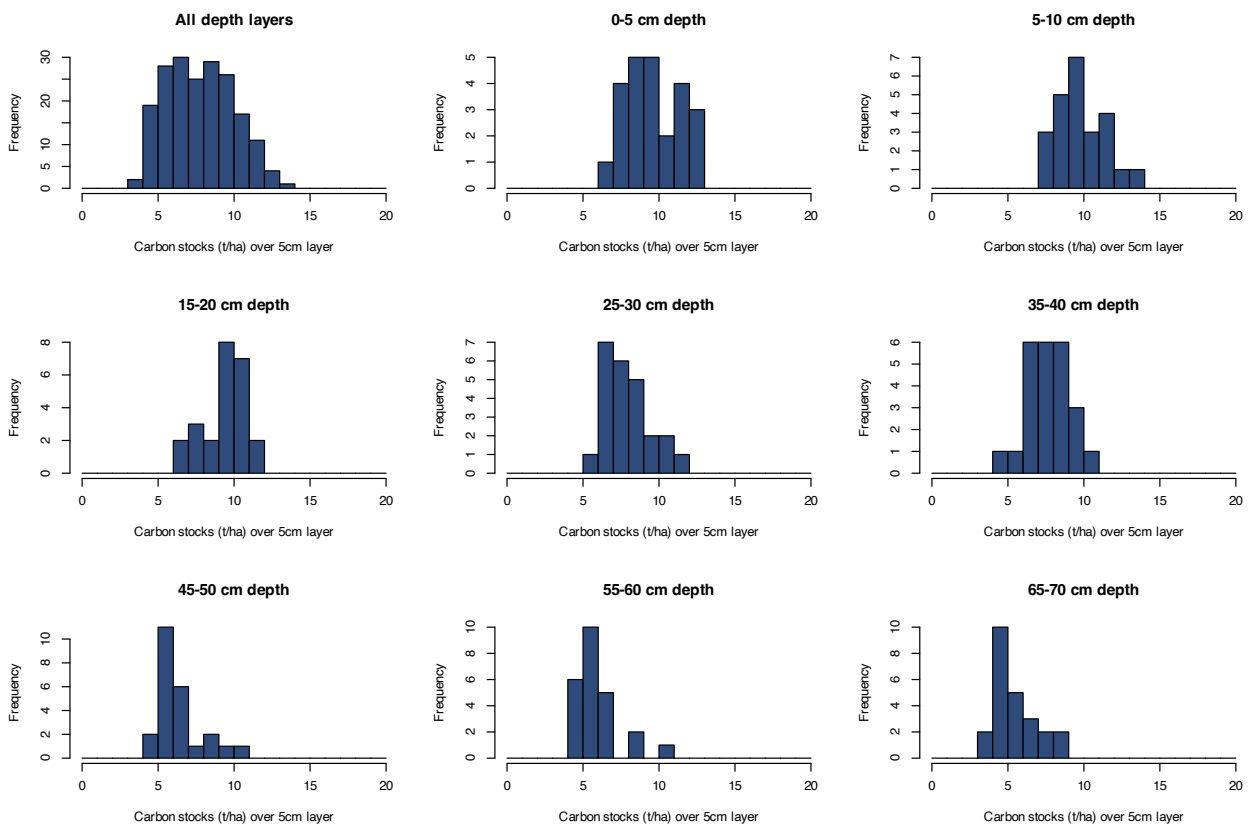
Figure S2: Distribution of the carbon stock samples over 5cm depth layers
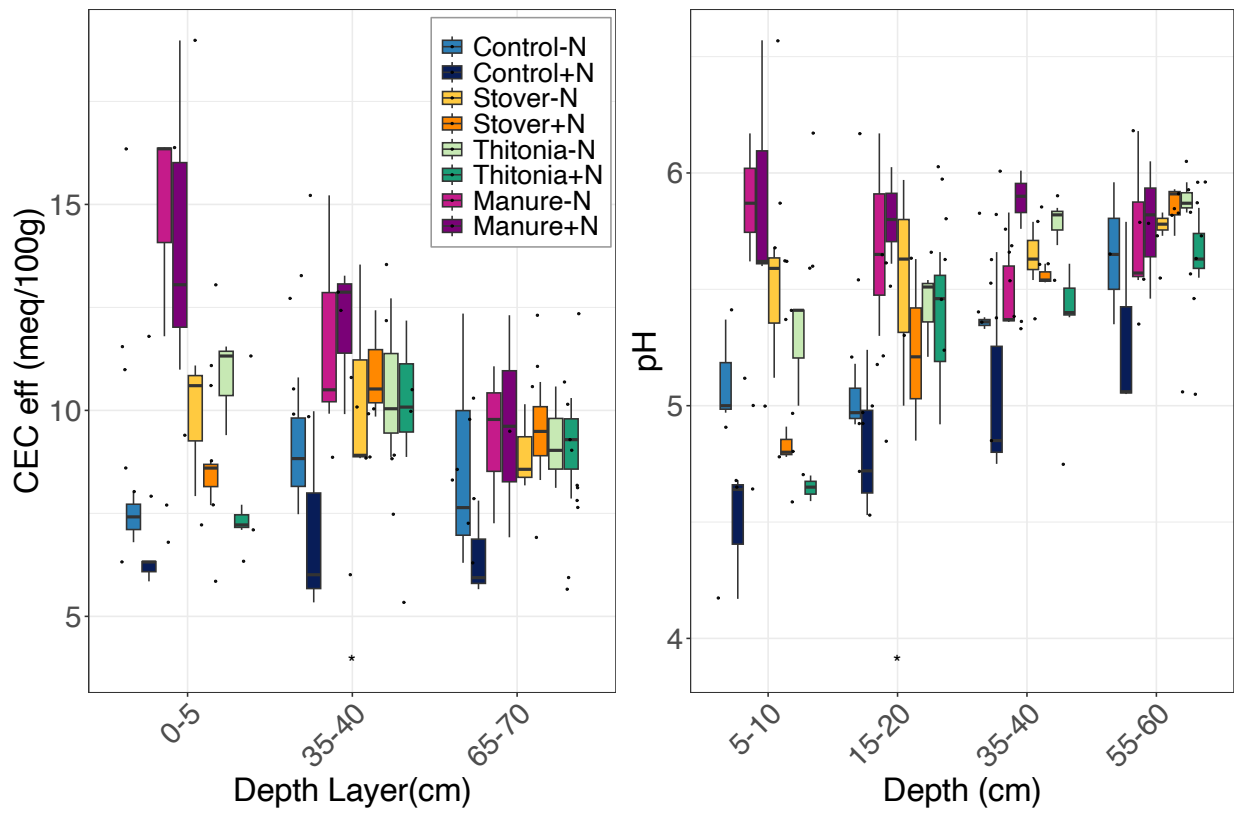
Figure S3: Effective cation exchange capacity and pH for all the different treatments
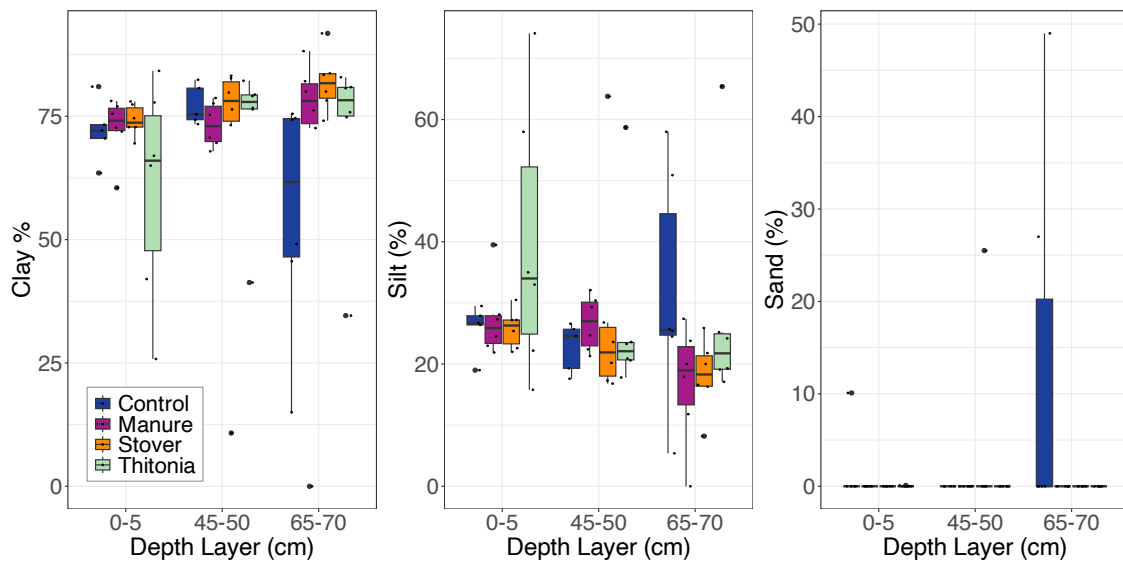
Figure S4: Texture for all the organic residue treatments and control
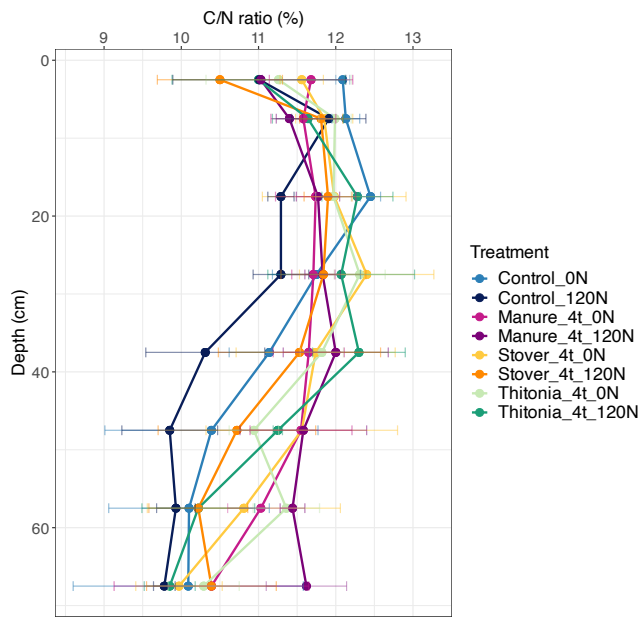
Figure S5: Depth profile of the C/N ratio of all treatments
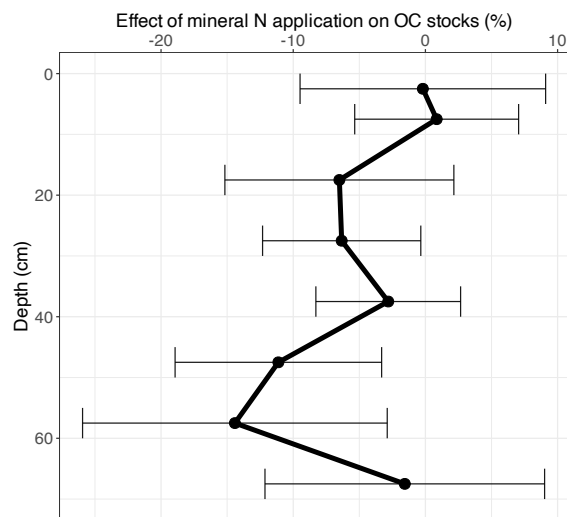
Figure S6: difference in OC stocks between +N and -N treatments (all treatment combined) at each measured 5 cm depth layer; values below 0 indicate a loss in OC when mineral nitrogen is applied
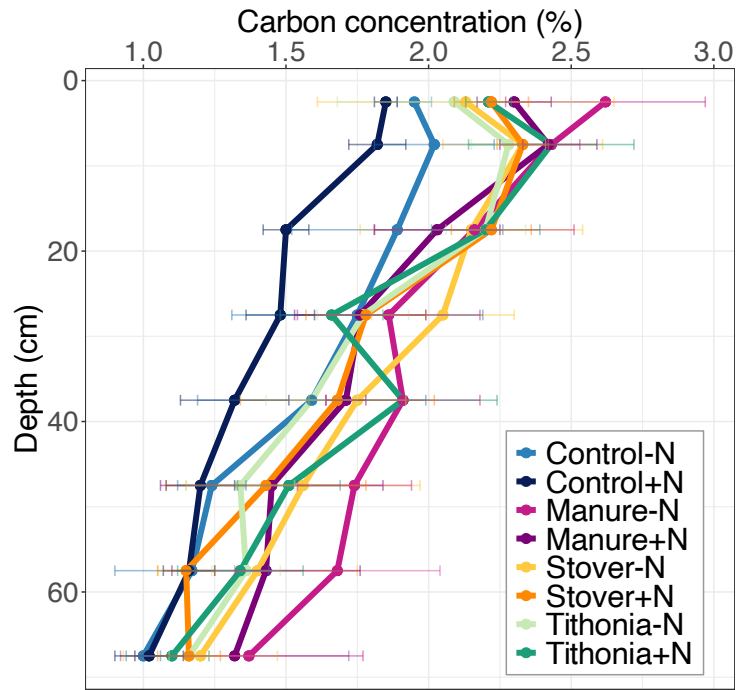
Figure S7: Soil organic carbon concentration
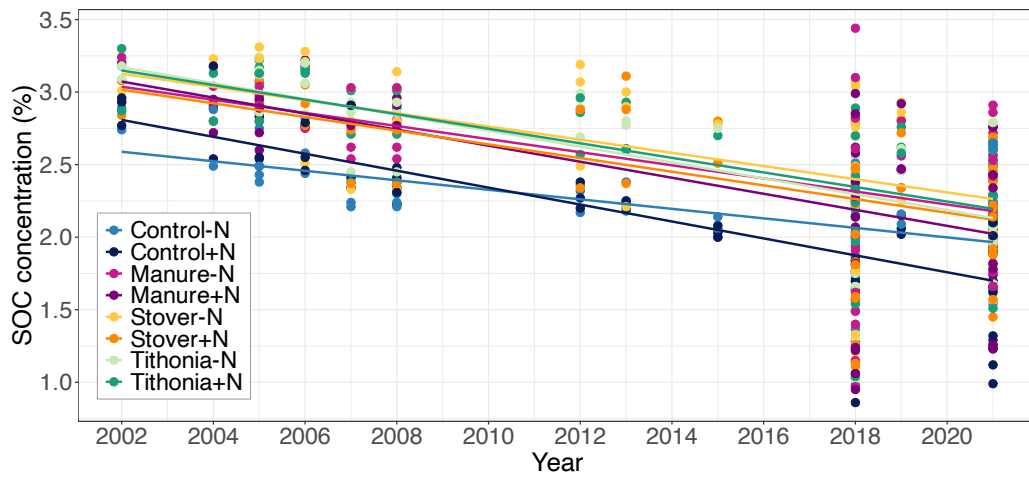
Figure S8: Annual change of SOC concentration (%) in the top 15 cm (data from Laub et al.

(2023b))