

**Table S2.** Fertilization effects on relative peak area (%) of characteristic peaks in organic matter fractions with aggregate grouping in FTIR analysis of Mollisols.

Soil depths	Components	Treatments	Alcohol and phenol -OH 3623 cm <sup>-1</sup>	Aliphatic -CH- 2920 cm <sup>-1</sup>	Aromatic C=C 1620 cm <sup>-1</sup>	Carbohydrate C-O 1030 cm <sup>-1</sup>	1620/2920
0-10 cm	M	NoF	12.78±0.28 a	2.14±0.06 a	4.75±0.05 d	80.33±0.59 a	2.22±0.03 d
		CF	11.60±0.26 b	2.19±0.07 a	5.02±0.05 c	81.19±0.56 a	2.29±0.04 c
		CF+DM	10.62±0.24 bc	2.28±0.07 a	5.38±0.06 b	81.72±0.54 a	2.36±0.04 b
		CF+2DM	10.23±0.30 c	2.35±0.08 a	5.69±0.06 a	81.73±0.60 a	2.42±0.03 a
	Fm	NoF	17.02±0.58 a	2.16±0.05 a	4.87±0.07 c	75.95±0.58 a	2.25±0.03 c
		CF	16.54±0.56 a	2.23±0.06 a	5.12±0.06 b	76.11±0.55 a	2.30±0.03 b
		CF+DM	15.05±0.59 a	2.31±0.06 a	5.48±0.07 a	77.16±0.52 a	2.37±0.04 a
		CF+2DM	14.86±0.53 a	2.39±0.07 a	5.69±0.08 a	77.06±0.50 a	2.38±0.04 a
	nA-MOM	NoF	15.81±0.56 a	2.23±0.06 a	4.96±0.06 d	77.00±0.57 a	2.22±0.03 c
		CF	15.70±0.57 a	2.29±0.06 a	5.19±0.07 c	76.82±0.56 a	2.27±0.03 b
		CF+DM	14.25±0.53 a	2.36±0.07 a	5.50±0.08 b	77.89±0.52 a	2.33±0.03 a
		CF+2DM	13.90±0.52 a	2.47±0.07 a	5.79±0.08 a	77.84±0.49 a	2.34±0.04 a
10-20 cm	M	NoF	12.58±0.29 a	2.19±0.05 a	4.84±0.05 c	80.53±0.58 a	2.14±0.02 b
		CF	11.11±0.27 b	2.26±0.06 a	5.11±0.06 b	81.46±0.56 a	2.15±0.01 b
		CF+DM	10.26±0.25 b	2.37±0.06 a	5.47±0.07 a	81.90±0.55 a	2.31±0.02 a
		CF+2DM	10.07±0.22 b	2.41±0.07 a	5.58±0.08 a	81.94±0.52 a	2.32±0.02 a
	Fm	NoF	16.91±0.57 a	2.25±0.03 b	4.96±0.05 c	75.88±0.49 a	2.20±0.01 c
		CF	16.05±0.55 ab	2.29±0.02 b	5.23±0.06 b	76.43±0.51 a	2.28±0.01 b
		CF+DM	14.96±0.52 ab	2.37±0.03 ab	5.59±0.06 a	77.08±0.53 a	2.36±0.02 a
		CF+2DM	14.12±0.51 b	2.44±0.04 a	5.78±0.07 a	77.66±0.54 a	2.37±0.02 a
	nA-MOM	NoF	15.70±0.61 a	2.29±0.02 b	5.04±0.06 c	76.97±0.57 a	2.20±0.02 c
		CF	15.62±0.60 a	2.35±0.03 b	5.25±0.06 c	76.78±0.54 a	2.23±0.02 b
		CF+DM	14.18±0.57 a	2.41±0.03 ab	5.59±0.05 b	77.82±0.49 a	2.32±0.03 a
		CF+2DM	13.58±0.53 a	2.52±0.04 a	5.87±0.07 a	78.03±0.51 a	2.19±0.01 a
20-30 cm	M	NoF	12.37±0.28 a	2.26±0.03 c	4.94±0.06 c	80.43±0.58 a	2.19±0.01 b
		CF	11.05±0.27 b	2.38±0.02 b	5.23±0.07 b	81.34±0.56 a	2.20±0.01 b
		CF+DM	10.08±0.29 b	2.49±0.02 ab	5.52±0.07 a	81.91±0.52 a	2.22±0.01 a
		CF+2DM	9.87±0.24 b	2.55±0.03 a	5.69±0.08 a	81.89±0.49 a	2.23±0.01 a
	Fm	NoF	16.59±0.57 a	2.32±0.03 b	5.07±0.06 c	76.02±0.56 a	2.23±0.01 d
		CF	15.87±0.56 ab	2.37±0.03 b	5.29±0.06 c	76.47±0.58 a	2.31±0.01 c
		CF+DM	14.58±0.54 ab	2.44±0.04 ab	5.64±0.07 b	77.34±0.54 a	2.34±0.02 b
		CF+2DM	13.82±0.52 b	2.51±0.04 a	5.87±0.08 a	77.80±0.61 a	2.18±0.01 a
	nA-MOM	NoF	15.61±0.59 a	2.34±0.03 c	5.11±0.06 d	76.94±0.58 a	2.21±0.01 d
		CF	15.47±0.55 a	2.42±0.03 bc	5.34±0.07 c	76.77±0.59 a	2.28±0.01 c
		CF+DM	14.05±0.48 a	2.49±0.04 ab	5.67±0.08 b	77.79±0.61 a	2.33±0.02 b
		CF+2DM	13.06±0.53 a	2.57±0.04 a	5.98±0.08 a	78.39±0.62 a	2.19±0.01 a

Note: Different lowercase letters within the same column represent significant differences for each soil layer in the same component ( $P < 0.05$ , Tukey's HSD test).