Supplementary Materials

Table S1. Contents of total organic carbon (C_{tot}), total nitrogen (N_{tot}), labile carbon (C_{lab}), microbial biomass carbon (C_{mic}) and microbial biomass nitrogen (N_{mic}) in the 0–10 cm soil layer under levels of sugarcane straw removal.

Site/treatment	C_{tot} (g kg^{-1})	N_{tot} (g kg^{-1})	C_{lab} (mg kg^{-1})	C_{mic} (mg kg^{-1})	N_{mic} (mg kg^{-1})
			(October 2015)		
Oxisol					
[S--]	14.52 ± 0.93^{ns*}	0.63 ± 0.09^{ns}	555.23 ± 47.54ba	263.21 ± 51.38^{ns}	19.64 ± 1.38^{ns}
[S-]	15.17 ± 0.51	0.72 ± 0.50	627.40 ± 55.91a	320.06 ± 54.04	21.65 ± 2.66
[S]	14.61 ± 0.83	0.65 ± 0.13	536.78 ± 38.60b	262.04 ± 25.60	20.34 ± 3.11
LSD‡	1.28	0.18	80.83	83.89	5.13
CV%§	4.89	15.61	7.92	16.73	14.05
Ultisol					
[S--]	5.20 ± 0.29^{ns}	0.55 ± 0.03^{ns}	373.51 ± 22.78^{ns}	161.75 ± 28.47^{ns}	7.67 ± 1.88b
[S-]	5.42 ± 0.55	0.45 ± 0.14	409.89 ± 33.82	195.98 ± 46.97	15.36 ± 3.18a
[S]	5.72 ± 0.63	0.46 ± 0.18	396.92 ± 34.28	201.05 ± 28.58	16.54 ± 4.78a
LSD	0.60	0.20	39.00	50.60	6.42
CV%	6.19	23.23	5.57	15.27	27.36
			(October 2016)		
Oxisol					
[S--]	11.98 ± 0.21b	1.08 ± 0.06a	653.53 ± 21.64c	313.37 ± 11.48c	31.50 ± 2.94a
[S-]	14.08 ± 1.14a	1.05 ± 0.10a	770.07 ± 27.93b	391.42 ± 21.13b	33.95 ± 0.77a
[S]	14.28 ± 1.14a	0.88 ± 1.14b	907.24 ± 25.60a	454.89 ± 8.84a	27.10 ± 3.54b
LSD	1.27	0.11	72.15	26.90	3.26
CV%	5.34	6.45	14.24	3.91	5.95
Ultisol					
[S--]	5.65 ± 0.22b	0.39 ± 0.04a	530.03 ± 23.57c	349.89 ± 8.58c	24.74 ± 0.86^{ns}
[S-]	5.70 ± 0.58ba	0.36 ± 0.06ab	602.71 ± 20.30b	387.14 ± 10.26b	24.48 ± 1.39
[S]	6.29 ± 0.43a	0.31 ± 0.06b	689.82 ± 43.24a	428.51 ± 21.01a	21.72 ± 3.06
LSD	0.37	0.13	39.33	12.62	3.08
CV%	3.45	21.29	12.13	1.82	7.33

Note: All data is expressed as mean (n = 4) ± standard deviation. *Values in column within each sampling followed by the same letter do not differ among themselves according to Tukey's test ($p < 0.10$) and, ns = non-significant; ‡LSD = least significant difference, §CV% = coefficient of variation.

Table S2. Soil organic matter quality indexes (C_{tot}:N_{tot}, C_{lab}:C_{tot}, C_{mic}:C_{lab}, C_{mic}:C_{tot}, N_{mic}:N_{tot} and C_{mic}:N_{mic}) in the 0-10 cm soil surface under different sugarcane straw level.

Site/treatment	C_{tot}:N_{tot}	C_{lab}:C_{tot} (%)	C_{mic}:C_{lab} (%)	C_{mic}:C_{tot} (%)	N_{mic}:N_{tot} (%)	C_{mic}:N_{mic}
			(October 2015)			
Oxisol						
[S--]	23.6 ± 3.6^{ns}	3.8 ± 0.4^{ns}	47.1 ± 5.7^{ns}	1.8 ± 0.4^{ns}	3.2 ± 0.3^{ns}	13.4 ± 2.4^{ns}
[S-]	21.0 ± 0.7	4.1 ± 0.3	50.8 ± 4.3	2.1 ± 0.3	3.0 ± 0.4	14.9 ± 3.2
[S]	23.0 ± 3.9	3.7 ± 0.3	48.9 ± 4.5	1.8 ± 0.2	3.3 ± 1.1	13.0 ± 1.4
LSD	5.9	0.52	9.8	0.5	1.5	4.4
CV%	14.9	7.64	11.3	14.9	26.8	17.9
Ultisol						
[S--]	9.4 ± 0.8^{ns}	7.2 ± 0.8^{ns}	43.3 ± 6.5^{ns}	3.1 ± 0.6^{ns}	1.4 ± 0.2 b	21.3 ± 1.7a
[S-]	13.0 ± 4.4	7.6 ± 1.0	47.3 ± 7.9	3.6 ± 1.0	3.5 ± 0.4 a	12.7 ± 0.8b
[S]	14.1 ± 5.9	7.0 ± 0.9	50.5 ± 4.3	3.5 ± 0.6	3.9 ± 1.3 a	12.7 ± 3.0b
LSD	5.9	0.8	9.5	1.0	1.1	3.4
CV%	27.3	6.1	11.3	16.7	20.4	12.2
			(October 2016)			
Oxisol						
[S--]	11.4 ± 0.7c	5.6 ± 0.1b	47.9 ± 0.4^{ns}	2.7 ± 0.1b	2.9 ± 0.2^{ns}	9.9 ± 0.7b
[S-]	13.6 ± 0.3b	5.7 ± 0.4b	50.8 ± 0.9	2.9 ± 0.2ab	3.3 ± 0.4	11.5 ± 0.8b
[S]	16.6 ± 1.2a	6.3 ± 0.1a	50.2 ± 2.3	3.1 ± 0.1a	3.2 ± 0.5	17.0 ± 2.3a
LSD	1.8	0.4	2.9	0.2	1.1	2.4
CV%	7.4	4.0	3.3	5.7	11.4	10.5
Ultisol						
[S--]	13.7 ± 1.2^{ns}	9.5 ± 0.4b	66.1 ± 1.4a	6.3 ± 0.2 ^{ns}	5.5 ± 1.6^{ns}	14.1 ± 0.5b
[S-]	15.5 ± 1.9	10.2 ± 0.9ab	64.2 ± 0.5b	6.5 ± 0.6	5.9 ± 1.2	15.8 ± 0.8b
[S]	18.2 ± 3.6	10.6 ± 0.4a	62.2 ± 1.0c	6.6 ± 0.2	6.1 ± 1.9	20.0 ± 2.8a
LSD	6.2	1.0	1.1	0.7	1.1	4.7
CV%	19.8	5.6	1.0	5.9	13.4	8.9

Note: All data is expressed as mean (n = 4) ± standard deviation. *Values, in column within each sampling, followed by the same letter do not differ in the Tukey's test ($p < 0.10$), and ns = non-significant; C_{tot}:N_{tot} = total carbon: total nitrogen ratio, C_{lab}:C_{tot} = labile carbon: total carbon, C_{mic}:C_{lab} = microbial biomass carbon: labile carbon, C_{mic}:C_{tot} = microbial biomass carbon: total carbon, N_{mic}:N_{tot} = microbial biomass nitrogen: total nitrogen and C_{mic}:N_{mic} microbial biomass carbon: microbial biomass nitrogen ratios; ‡LSD = least significant difference, §CV% = coefficient of variation.