

List of supplementary materials for SOC and TN dynamic paper

Table S1. Soil bulk density in 2009, 2011 and 2021.

Experiments ^a	Soil depth (cm)	Sampling years and cropping systems ^b										
		2009		2011					2021			
		PE	RV	CT	NT1	NT2	NT3	CT	NT1	NT2	NT3	
Bulk density (ρ_b) (g cm^{-3})												
MaiEx	0-5	1.11	1.00	1.17	1.20	1.20	1.21	1.14	1.08	1.10	1.10	
	5-10	1.17	1.05	1.21	1.20	1.23	1.22	1.22	1.14	1.19	1.18	
	10-20	1.24	1.10	1.20	1.20	1.18	1.22	1.19	1.15	1.13	1.19	
	20-40		1.14	1.07	1.10	1.13	1.08	1.01	0.98	0.98	1.00	
	40-60		1.12	1.00	1.05	1.03	1.09	0.90	0.90	0.97	0.94	
	60-80		1.05	1.11	1.05	1.09	1.13	0.92	0.93	0.99	0.94	
	80-100		1.06	1.10	1.08	1.16	1.15	0.95	0.95	1.02	0.96	
SoyEx	0-5	1.15	1.00	1.16	1.16	1.16	1.14	1.09	1.10	1.16	1.09	
	5-10	1.24	1.05	1.22	1.25	1.19	1.18	1.25	1.19	1.19	1.16	
	10-20	1.26	1.10	1.25	1.23	1.16	1.22	1.24	1.16	1.18	1.14	
	20-40		1.14	1.11	1.20	1.11	1.06	1.09	1.12	1.06	1.07	
	40-60		1.12	1.06	1.07	1.08	1.04	0.93	0.95	0.95	0.95	
	60-80		1.05	1.07	1.08	1.09	1.05	0.93	0.97	0.94	0.94	
	80-100		1.06	1.10	1.07	1.14	1.13	0.92	0.96	0.97	0.93	
CasEx	0-5	1.15	1.00	1.10	1.17	1.17	1.17	1.08	1.05	1.12	1.09	
	5-10	1.20	1.05	1.11	1.19	1.18	1.18	1.20	1.12	1.21	1.22	
	10-20	1.23	1.10	1.15	1.25	1.25	1.24	1.18	1.13	1.21	1.17	
	20-40		1.14	1.12	1.18	1.17	1.13	1.09	1.09	1.08	1.01	
	40-60		1.12	1.02	1.02	1.04	1.03	0.98	1.00	0.96	0.94	
	60-80		1.05	0.99	1.09	1.11	1.04	0.95	0.95	0.97	0.96	
	80-100		1.06	1.06	1.11	1.08	1.09	0.94	0.98	0.99	0.99	

^aExperiments: MaiEx = Maize-based experiment, SoyEx = Soybean-based experiment, and CasEx = Cassava-based experiment.

^bTillage systems: PE: pre-experiment (the samples were collected to 20 cm depth in 2009 prior to the establishment of the experiments); RV: reference vegetation; CT = conventional tillage, NT = no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems described in Table 1.

Table S2. Duplication of Fig. 1: Mean SOC concentration in bulk soil in 2011 and 2021.

Experiments ^a	Soil depth (cm)	Cropping systems ^b							
		CT	NT1	NT2	NT3	CT	NT1	NT2	NT3
		SOC concentration in 2011 (g C kg ⁻¹ soil)				SOC concentration in 2021 (g C kg ⁻¹ soil)			
MaiEx	0-5	19.68	18.60 B	19.33 B	18.97 B	20.48 b	31.29 Aa	29.23 Aa	28.17 Aa
	5-10	17.55	16.28 B	16.43 B	16.02 B	19.41	19.71 A	20.34 A	19.96 A
	10-20	14.50 B	13.90	13.03 B	13.05 B	16.78 A	14.87	15.42 A	14.62 A
	20-40	9.10	8.02 B	7.42 B	8.63	9.44	9.34 A	10.22 A	9.18
	40-60	6.47 a	5.45 Bb	6.08 b	5.84 b	6.34	6.38	6.60	6.36
	60-80	4.87	4.14 B	4.65	4.49	4.51	5.08	4.89	4.72
	80-100	4.49 Aa	3.45 Bb	4.30 a	4.05 b	3.84 B	3.99	4.23	3.79
SoyEx	0-5	19.27	19.92 B	20.82 B	20.12 B	19.70 b	27.45 Aa	27.39 Aa	28.31 Aa
	5-10	18.60	17.60	17.13	17.07	19.16	17.39	19.83	19.79
	10-20	15.78	15.65	14.22	15.47	16.87	15.51	15.53	15.95
	20-40	9.71	10.11	8.39	8.30	10.80 a	11.58 a	9.30 b	9.86 b
	40-60	6.44	6.60	5.75	5.59	7.28	7.61	6.50	6.49
	60-80	5.22	5.57	4.42	4.33	5.39	5.87	4.52	4.48
	80-100	4.83	5.35	4.26	3.95	4.52	4.67	3.54	3.78
CasEx	0-5	15.65 Bb	15.63 Bb	17.98 Ba	18.68 Ba	17.59 Ab	19.75 Aa	22.26 Aa	24.32 Aa
	5-10	16.42 B	15.23 B	16.68 B	16.08 B	17.28 A	18.26 A	18.36 A	18.06 A
	10-20	15.15 a	12.98 Bb	14.45 ab	13.05 Bb	16.00	15.47 A	15.18	14.80 A
	20-40	9.66 A	7.84 B	8.39 B	7.74 B	8.70 B	9.57 A	10.29 A	9.56 A
	40-60	6.68	5.82 B	6.22	5.79 B	6.79	6.88 A	6.68	6.64 A
	60-80	5.34	4.92 B	5.47	4.98	5.66	5.41 A	5.28	5.19
	80-100	5.12	4.47	5.01 A	4.63 A	5.03	4.46	4.41 B	4.03 B

^a MaiEx: Maize-based experiment; SoyEx: Soybean-based experiment; and CasEx: Cassava-based experiment.

^bCT: conventional tillage; NT: no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. The same letters accompanying the values indicate there is no significant difference within the same treatment and depth between 2011 and 2021 (uppercase letters) and between the treatments within the same sampling date (lowercase letters) at the same soil depth at $P \leq 0.05$ (Tukey's test).

Table S3. Duplication of Fig. 2: Mean total N concentration in bulk soil in 2011 and 2021.

Experiments ^a	Soil depth (cm)	Cropping systems ^b							
		CT	NT1	NT2	NT3	CT	NT1	NT2	NT3
		N concentration in 2011 (g N kg ⁻¹ soil)				N concentration in 2021 (g N kg ⁻¹ soil)			
MaiEx	0-5	1.82	1.88 B	1.89 B	1.96 B	1.65 b	2.70 Aa	2.58 Aa	2.49 Aa
	5-10	1.64	1.66	1.71	1.79	1.50 b	1.71 ab	1.91 ab	1.98 a
	10-20	1.34	1.46	1.47	1.46	1.46	1.32	1.76	1.41
	20-40	1.13	1.08	1.06	1.15	0.98	0.99	1.08	1.08
	40-60	0.88 A	0.92 A	0.99 A	0.99 A	0.78 B	0.70 B	0.79 B	0.83 B
	60-80	0.77	0.80	0.87 A	0.88 A	0.66	0.86	0.66 B	0.72 B
	80-100	0.71 A	0.76	0.85 A	0.79 A	0.53 B	0.64	0.69 B	0.63 B
SoyEx	0-5	1.87	1.92 B	2.02 B	1.95 B	1.70 b	2.39 Aa	2.36 Aa	2.50 Aa
	5-10	1.65	1.67	1.72	1.72	2.15	1.56	1.79	1.85
	10-20	1.39	1.53	1.47	1.61	1.51	1.42	1.62	1.48
	20-40	1.07	1.22	1.20	1.19	1.16	1.19	1.09	1.10
	40-60	0.95	1.01	0.98 A	0.94	0.89	0.93	0.82 B	0.85
	60-80	0.85	0.94 A	0.88	0.86 A	0.73	0.72 B	0.78	0.72 B
	80-100	0.77	0.90 A	0.85 A	0.82	0.79 a	0.64 Bab	0.58 Bb	0.71 ab
CasEx	0-5	1.57 b	1.74 ab	1.70 Bab	1.90 Ba	1.58 c	1.75 cb	1.99 Aab	2.18 Aa
	5-10	1.69 ab	1.72 a	1.53 Bb	1.67 ab	1.58	1.69	1.68 A	1.69
	10-20	1.52	1.54 A	1.37	1.44	1.47	1.29 B	1.45	1.46
	20-40	1.21 A	1.20 A	1.02 B	1.12	1.04 B	1.08 B	1.21 A	1.12
	40-60	1.01 ab	1.07 Aa	0.88 b	0.97 ab	0.92	0.95 B	0.88	0.94
	60-80	0.90	0.99 A	0.80	0.90	0.73	0.77 B	0.84	0.80
	80-100	0.83	0.92 A	0.80	0.81	0.76	0.69 B	0.68	0.74

^aMaiEx: Maize-based experiment; SoyEx: Soybean-based experiment; and CasEx: Cassava-based experiment.

^bCT: conventional tillage; NT: no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. The same letters accompanying the values indicate there is no significant difference within the same treatment and depth between 2011 and 2021 (uppercase letters) and between the treatments within the same sampling date (lowercase letters) at the same soil depth at $P \leq 0.05$ (Tukey's test).

Table S4. Mean SOC and total N stocks per soil layer in 2011.

Experiments ^a	Approximate soil depth (cm)	Cropping systems							
		CT	NT1	NT2	NT3	CT	NT1	NT2	NT3
		SOC stock in 2011 (Mg C ha ⁻¹)				Total N stock in 2011 (Mg N ha ⁻¹)			
MaiEx	0-5	9.45	8.93 B	9.28 B	9.10 B	0.87	0.90 B	0.91 B	0.94 B
	5-10	9.29 B	8.70 B	8.85 B	8.67 B	0.87	0.88	0.91	0.95
	10-20	15.99 B	15.24	14.58 B	14.46 B	1.48	1.58	1.61	1.62
	20-40	18.83	17.05	15.81 B	17.92	2.19	2.16	2.12	2.27
	40-60	13.00 a	11.35 ab	11.71 bc	12.13 c	1.71 A	1.73 A	1.80 A	1.86 A
	60-80	10.19 Aa	8.90 a	9.82 a	9.52 b	1.49 A	1.60	1.69 A	1.72 A
	80-100	8.44 Aa	6.99 a	8.15 ab	7.89 b	1.33 A	1.41	1.55 A	1.54 A
	0-100	85.18	77.16 B	78.19 B	79.68 B	9.94	10.26	10.58	10.89
SoyEx	0-5	9.25 a	9.56 Ba	9.99 Ba	9.65 Ba	0.90	0.92 B	0.97 B	0.93 B
	5-10	9.70 b	9.35 a	9.25 Ba	9.11 Bab	0.88	0.89	0.92	0.91
	10-20	17.28 a	17.03 a	15.61 a	16.68 a	1.53 B	1.66	1.60	1.73
	20-40	20.42 a	20.99 a	17.32 a	17.87 a	2.12	2.41	2.32	2.36
	40-60	13.82 ab	14.83 a	11.73 b	11.39 b	1.76	1.98	1.88	1.80
	60-80	10.76 a	11.39 a	9.33 a	8.96 a	1.64 A	1.80 A	1.69 A	1.63 A
	80-100	9.21 a	9.87 a	7.81 a	7.46 a	1.47	1.65 A	1.56 A	1.49 A
	0-100	90.44	93.00	81.05	81.12	10.29	11.29 A	10.93	10.86
CasEx	0-5	7.51 Bb	7.50 Bb	8.63 Ba	8.97 Ba	0.75 b	0.84 ab	0.82 Bab	0.91 Ba
	5-10	8.44 Bab	7.93 Bb	8.78 Ba	8.60 Bab	0.87 ab	0.89 ab	0.81 Bb	0.89 ab
	10-20	16.23 Ba	14.19 Bb	15.74 Bab	14.40 Bab	1.63 ab	1.67 Aa	1.49 b	1.57 ab
	20-40	19.11	16.59 B	17.88 B	16.39 B	2.33 Aa	2.37 Aa	2.03 Bb	2.22 a
	40-60	13.57	11.99	12.78	11.74	1.90 Aab	2.00 Aa	1.68 a	1.83 ab
	60-80	10.91	9.92	10.73	9.75	1.72 A	1.88 A	1.54	1.71
	80-100	9.32	8.61	9.58 A	8.71 A	1.55 a	1.76 Aa	1.42 b	1.55 ab
	0-100	85.09	76.74 B	84.10 B	78.55 B	10.75 A	11.41 Av	9.78	10.68

^aExperiments: MaiEx = Maize-based experiment, SoyEx = Soybean-based experiment, and CasEx = Cassava-based experiment.

^bCropping systems: CT = conventional tillage, NT = no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. At the same soil depth, the uppercase letter(s) accompanying the values of the same treatment refer to the significant difference between 2011 and 2021 at $P \leq 0.05$ (Tukey's test). The lowercase letter(s) accompanying the values in the same year and at the same soil depth indicate the significant difference among the cropping systems (CT, NT1, NT2, and NT3) at $P \leq 0.05$ (Tukey's test).

Table S5. Duplication of Fig. 4: C concentration in POM fraction (> 53 μm) in 2011 and 2021.

Experiments ^a	Soil depth (cm)	Cropping systems ^b							
		CT	NT1	NT2	NT3	CT	NT1	NT2	NT3
		C concentration in POM in 2011 (g C kg ⁻¹ soil)				C concentration in POM in 2021 (g C kg ⁻¹ soil)			
MaiEx	0-5	1.39	1.46 B	1.67 B	1.69 B	1.76 c	4.76 Ab	3.63 Ab	3.81 Aa
	5-10	0.92 B	0.82 B	0.95 B	0.86	1.32 A	1.30 A	1.40 A	1.11
	10-20	0.55 B	0.56	0.46	0.47	0.83 Aa	0.51 b	0.57 ab	0.55 ab
	20-40	0.17	0.18	0.15 B	0.20	0.21	0.19	0.26 A	0.18
	40-60	0.09	0.08	0.11	0.08	0.08	0.10	0.11	0.09
	60-80	0.07	0.08	0.09	0.06	0.06	0.08	0.06	0.06
	80-100	0.07	0.07	0.07	0.05	0.05	0.06	0.09	0.04
SoyEx	0-5	1.37	1.35 B	1.60 B	1.65 B	1.65 c	4.24 Aa	3.32 Ab	3.69 Aab
	5-10	0.83 B	0.71 B	0.73 B	0.82 B	1.18 Ab	1.42 Ab	1.17 Ab	1.10 Aa
	10-20	0.58 B	0.54 B	0.55	0.56	0.77	0.93 A	0.64	0.64
	20-40	0.22	0.27	0.17	0.20	0.21	0.31	0.18	0.19
	40-60	0.08	0.16	0.07	0.09	0.10	0.12	0.11	0.09
	60-80	0.06	0.06	0.05	0.10	0.06	0.08	0.07	0.07
	80-100	0.07	0.07	0.06	0.07 A	0.06	0.06	0.04	0.04 B
CasEx	0-5	0.84	0.85	1.03	1.98	1.01 b	1.40 ab	1.96 ab	2.79 a
	5-10	0.89	0.81	1.11	0.82	0.88	0.89	1.04	0.98
	10-20	0.64	0.54	0.62	0.52	0.70	0.53	0.57	0.54
	20-40	0.21 A	0.15 B	0.22	0.13 B	0.16 B	0.19 A	0.23	0.20 A
	40-60	0.10	0.08	0.08	0.09	0.10	0.09	0.09	0.10
	60-80	0.07	0.06	0.11 A	0.06	0.09	0.05	0.07 B	0.06
	80-100	0.09	0.07	0.13	0.15	0.09	0.07	0.07	0.05

^a Experiments: MaiEx = Maize-based experiment, SoyEx = Soybean-based experiment, and CasEx = Cassava-based experiment.

^b Cropping systems: CT = conventional tillage, NT = no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. At the same soil depth, the uppercase letter(s) accompanying the values of the same treatment refer to the significant difference between 2011 and 2021 at $P \leq 0.05$ (Tukey's test). The lowercase letter(s) accompanying the values in the same year and at the same soil depth indicate the significant difference among the cropping systems (CT, NT1, NT2, and NT3) at $P \leq 0.05$ (Tukey's test).

Table S6. Duplication of Fig. 4: C concentration in MAOM fraction (< 53 µm) in 2011 and 2021.

Experiments ^a	Soil depth (cm)	Cropping systems ^b							
		CT	NT1	NT2	NT3	CT	NT1	NT2	NT3
		C concentration in MAOM in 2011 (g C kg ⁻¹ soil)				C concentration in MAOM in 2021 (g C kg ⁻¹ soil)			
MaiEx	0-5	15.15	15.58 B	15.92 B	15.29 B	16.64 b	23.31 Aa	22.73 Aa	22.19 Aa
	5-10	14.09 B	14.32 B	14.10 B	13.39 B	16.08 A	16.74 A	17.07 A	15.96 A
	10-20	11.77 B	12.38	11.36	11.19	13.99 A	13.17	13.16	12.57
	20-40	7.51	7.22 B	6.54 B	7.29	8.18	8.23 A	8.97 A	8.01
	40-60	5.48	5.04 B	5.49	5.11	5.50	5.65 A	5.84	5.52
	60-80	4.30	3.96	4.22	4.00	4.02	4.35	4.34	4.19
	80-100	3.77 A	3.26	3.90	3.21	3.37 B	3.53	3.76	3.29
SoyEx	0-5	15.60	16.69 B	17.26 B	16.84 B	16.48 b	21.30 Aa	21.06 Aa	20.97 Aa
	5-10	15.22	15.26	14.72	14.55 B	16.09	16.80	16.31	18.71 A
	10-20	13.38 B	13.76 B	12.41 B	12.84 B	14.39 A	14.39 A	13.44 A	13.76 A
	20-40	8.35	8.95	7.45	7.28	9.20	9.87	8.10	8.50
	40-60	5.34 B	6.13 B	5.20	5.03 B	5.96 A	6.66 A	5.62	5.66 A
	60-80	5.02	5.10	4.09	3.89	4.57	5.03	3.99	4.03
	80-100	4.32 A	4.85 A	3.83 A	3.56	3.77 B	4.08 B	3.11 B	3.43
CasEx	0-5	13.74 Bb	13.64 Bb	15.25 Ba	14.51 Bab	14.79 Ac	16.75 Ab	18.52 Aa	19.00 Aa
	5-10	13.86 B	13.16 B	14.57 B	13.56 B	14.72 A	15.74 A	15.85 A	15.38 A
	10-20	13.12 Ba	11.27 Bb	12.80 Bab	11.31 Bb	13.79 A	13.61 A	13.45 A	12.84 A
	20-40	8.56	6.86 B	7.48 B	6.49 B	7.80	8.44 A	8.91 A	8.37 A
	40-60	5.90	5.17 B	5.58	4.94 B	5.76	6.09 A	5.92	5.93 A
	60-80	4.76	4.38 B	4.83	4.25	4.93	4.86 A	4.77	4.55
	80-100	4.62	4.03	4.52 A	3.99	4.43	4.06	3.50 B	3.94

^a Experiments: MaiEx = Maize-based experiment, SoyEx = Soybean-based experiment, and CasEx = Cassava-based experiment.

^b Cropping systems: CT = conventional tillage, NT = no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. At the same soil depth, the uppercase letter(s) accompanying the values of the same treatment refer to the significant difference between 2011 and 2021 at $P \leq 0.05$ (Tukey's test). The lowercase letter(s) accompanying the values in the same year and at the same soil depth indicate the significant difference among the cropping systems (CT, NT1, NT2, and NT3) at $P \leq 0.05$ (Tukey's test).

Table S7. Duplication of Fig. 5: N concentration in POM fraction (> 53 μm) in 2011 and 2021.

Experiments ^a	Soil depth (cm)	Cropping systems ^b							
		CT	NT1	NT2	NT3	CT	NT1	NT2	NT3
		N concentration in POM in 2011 (g N kg ⁻¹ soil)				N concentration in POM in 2021 (g N kg ⁻¹ soil)			
MaiEx	0-5	0.086	0.087 B	0.100 B	0.101 B	0.107 c	0.311 Aa	0.241 Ab	0.254 Ab
	5-10	0.056	0.046 B	0.048 B	0.052	0.073	0.075 A	0.084 A	0.067
	10-20	0.032	0.030	0.028	0.028	0.043	0.023	0.029	0.026
	20-40	0.010	0.008	0.011	0.016	0.010	0.008	0.013	0.009
	40-60	0.008 A	0.006 A	0.010 A	0.007 A	0.003B	0.005 B	0.005 B	0.004 B
	60-80	0.008 A	0.007	0.013 A	0.006	0.003 B	0.003	0.003 B	0.003
	80-100	0.008 A	0.008 A	0.008 A	0.005	0.002 B	0.002 B	0.005 B	0.002
SoyEx	0-5	0.076	0.079 B	0.096 B	0.092 B	0.104 c	0.276 Aa	0.218 Aab	0.227 Aab
	5-10	0.052 B	0.036 B	0.036 B	0.043 B	0.071 Ab	0.081 Aa	0.065 Aa	0.056 Ab
	10-20	0.029 B	0.026 B	0.025	0.027	0.045 A	0.048 A	0.030	0.027
	20-40	0.010	0.009	0.008	0.009	0.004	0.013	0.008	0.007
	40-60	0.006	0.006	0.007	0.006	0.003	0.005	0.005	0.004
	60-80	0.006	0.006 A	0.005	0.008 A	0.002	0.004 B	0.003	0.003 B
	80-100	0.006 A	0.006 A	0.005	0.006 A	0.004 B	0.003 B	0.003	0.002 B
CasEx	0-5	0.046	0.048	0.061	0.129	0.054 b	0.086 ab	0.123 ab	0.161 a
	5-10	0.049	0.046	0.064	0.045	0.044	0.051	0.060	0.053
	10-20	0.032	0.029	0.031	0.024	0.035	0.026	0.030	0.026
	20-40	0.013	0.009	0.012	0.009	0.007	0.008	0.009	0.009
	40-60	0.006	0.006 A	0.006	0.008	0.004	0.004 B	0.007	0.005
	60-80	0.005 B	0.005	0.008	0.007	0.006 A	0.002	0.004	0.003
	80-100	0.006	0.006	0.010	0.018 A	0.007	0.004	0.002	0.003 B

^a Experiments: MaiEx = Maize-based experiment, SoyEx = Soybean-based experiment, and CasEx = Cassava-based experiment.

^b Cropping systems: CT = conventional tillage, NT = no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. At the same soil depth, the uppercase letter(s) accompanying the values of the same treatment refer to the significant difference between 2011 and 2021 at $P \leq 0.05$ (Tukey's test). The lowercase letter(s) accompanying the values in the same year and at the same soil depth indicate the significant difference among the cropping systems (CT, NT1, NT2, and NT3) at $P \leq 0.05$ (Tukey's test).

Table S8. Duplication of Fig. 5: N concentration in MAOM fraction (< 53 µm) in 2011 and 2021.

Experiments ^a	Soil depth (cm)	Cropping systems ^b							
		CT	NT1	NT2	NT3	CT	NT1	NT2	NT3
		N concentration in MAOM in 2011 (g N kg ⁻¹ soil)				N concentration in MAOM in 2021 (g N kg ⁻¹ soil)			
MaiEx	0-5	1.22	1.57	1.93	1.55	1.29 b	2.02 a	2.28 a	1.73 ab
	5-10	1.25 b	1.27 b	1.86 Aa	1.44 b	1.40	1.43	1.33 B	1.26
	10-20	1.10 b	1.21 b	1.69 Aa	1.24 b	1.21	1.14	0.86 B	1.04
	20-40	0.85 b	0.93 b	1.33 Aa	0.95 Ab	0.84	0.75	0.75 B	0.64 B
	40-60	0.78 Ab	0.73 b	1.24 Aa	0.87 Ab	0.55 B	0.59	0.50 B	0.39 B
	60-80	0.69	0.75	1.06 A	0.72 A	0.38 ab	0.50 a	0.35 Bab	0.00 Bb
	80-100	0.57 b	0.73 Ab	1.13 Aa	0.62 Ab	0.37	0.35 B	0.33 B	0.23 B
SoyEx	0-5	1.44	1.56	1.73	1.64	1.25 b	1.76 a	1.75 a	1.67 a
	5-10	1.40 A	1.33	1.44	1.43	1.07 Bb	1.40 a	1.28 a	1.49 a
	10-20	1.33	1.24	1.39	1.24	1.01	1.32	1.04	1.02
	20-40	0.96	1.15	1.00	0.83	0.72	0.90	0.72	0.69
	40-60	0.79 A	0.77 A	0.84 A	0.61	0.54 B	0.58 B	0.48 B	0.49
	60-80	0.79 A	0.74 A	0.74 A	0.57	0.46 B	0.44 B	0.33 B	0.38
	80-100	0.71 A	0.67 A	0.70 A	0.49 A	0.30 B	0.34 B	0.28 B	0.29 B
CasEx	0-5	1.34 A	1.40	1.43	1.60	1.07 Bb	1.26 ab	1.42 a	1.48 a
	5-10	1.43 A	1.41 A	1.40 A	1.62 A	1.09 B	1.22 B	1.21 B	1.12 B
	10-20	1.33 A	1.22 A	1.27 A	1.40 A	1.06 B	1.04 B	1.00 B	0.93 B
	20-40	1.03 Aa	0.85 Ab	0.99 Aab	1.12 Aa	0.65 B	0.63 B	0.71 B	0.59 B
	40-60	0.92 Aab	0.79 Ab	0.77 Ab	0.98 Aa	0.46 Bab	0.39 Bab	0.56 Ba	0.31 Bb
	60-80	0.80 Aab	0.63 Ab	0.65 Ab	0.92 Aa	0.38 B	0.35 B	0.38 B	0.27 B
	80-100	0.77 Aab	0.73 Aab	0.62 Ab	0.88 Aa	0.38 B	0.30 B	0.30 B	0.27 B

^a Experiments: MaiEx = Maize-based experiment, SoyEx = Soybean-based experiment, and CasEx = Cassava-based experiment.

^b Cropping systems: CT = conventional tillage, NT = no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. At the same soil depth, the uppercase letter(s) accompanying the values of the same treatment refer to the significant difference between 2011 and 2021 at $P \leq 0.05$ (Tukey's test). The lowercase letter(s) accompanying the values in the same year and at the same soil depth indicate the significant difference among the cropping systems (CT, NT1, NT2, and NT3) at $P \leq 0.05$ (Tukey's test).

Table S9. Cumulative SOC stock in 2011.

Experiments ^a	Approximate soil depth (cm)	Cropping systems ^b			
		CT	NT1	NT2	NT3
Cumulative SOC stock in 2011 (Mg C ha ⁻¹)					
MaiEx	0-10	18.74 B	17.63 B	18.12 B	17.77 B
	0-20	34.73 B	32.87 B	32.71 B	32.23 B
	0-40	53.56 B	49.92 B	48.51 B	50.15 B
	0-60	66.55	61.27 B	60.22 B	62.28 B
	0-80	76.74	70.17 B	70.04 B	71.80 B
	0-100	85.18	77.16 B	78.19 B	79.68 B
SoyEx	0-10	18.95	18.91 B	19.23 B	18.77 B
	0-20	36.23	35.94 B	34.85 B	35.44 B
	0-40	56.65	56.92	52.17 B	53.31 B
	0-60	70.47	71.75	63.90 B	64.70 B
	0-80	81.23	83.14	73.24 B	73.66 B
	0-100	90.44	93.00	81.05	81.12
CasEx	0-10	15.95 Bab	15.44 Bb	17.41 Bab	17.57 Ba
	0-20	32.18 B	29.63 B	33.14 B	31.97 B
	0-40	51.29	46.22 B	51.02 B	48.36 B
	0-60	64.86	58.21 B	63.80 B	60.10 B
	0-80	75.77	68.13 B	74.53 B	69.85 B
	0-100	85.09	76.74 B	84.10 B	78.55 B

^aExperiments: MaiEx = Maize-based experiment, SoyEx = Soybean-based experiment, and CasEx = Cassava-based experiment.

^bCropping systems: CT = conventional tillage, NT = no-till, NT1, NT2, and NT3 refer to no-till associated with cropping systems as described in Table 1. At the same soil depth, the uppercase letter(s) accompanying the values of the same treatment refer to the significant difference between 2011 and 2021 at $P \leq 0.05$ (Tukey's test). The lowercase letter(s) accompanying the values in the same year and at the same soil depth indicate the significant difference among the cropping systems (CT, NT1, NT2, and NT3) at $P \leq 0.05$ (Tukey's test).