Supporting information

Table S1. Soil properties and biological characteristic under different land-use types. Values are means ± SE.

	Cropland	Sugarcane	Mulberry	Forage grass	Forest
BD	1.3±0.02a	1.33±0.04a	1.34±0.02a	1.04±0.07b	0.82±0.01c
SWC	18.84±0.56b	22.96±4.61b	19.28±0.51b	29.65±6.78ab	36.4±0.49a
pH	6.2±0.41	6.53±0.45	6.22±0.4	6.25±0.61	7.38±0.08
C:N	9.72±0.72b	10.68±0.72b	9.9±0.51b	11.35±1.11b	18.47±0.71a
SOC	14.25±0.77b	18.45±1.5b	17.03±1.72b	22.73±5.49b	60.41±5.36a
TN	1.73±0.08b	2.03±0.14b	1.99±0.15b	2.22±0.34b	3.79±0.19a
Ca	11.84±3.11	16.66±7.54	23.82±5.58	25.69±15.56	37.52±2.5
Mg	1.24±0.24b	1.31±0.26b	1.03±0.32b	0.91±0.44b	11.24±1.65a
AN	4.07±1.3a	2.11±0.58ab	2.16±0.61ab	3.1±0.92ab	0.83±0.08b
NN	6.89±1.03c	17.97±6.16b	12.16±1.75bc	9.87±1.94bc	34.65±3.67a
MBN	34.57±3.51b	42.16±10.53b	37.37±3.95b	68.93±24.94b	175.4±17.01a
MBC	465.6±50.37b	598.34±81.09b	539.83±33.25b	1046±374.32b	2405.75±228.22a
bacteria	21.06±2.57	24.2±2.91	26.38±2.6	43.54±11.02	94.22±5.38
fungi	3.4±0.54	4.44±0.78	5.44±0.38	6.86±1.55	12.12±0.6
ACT	6.28±0.34	6±0.91	7.58±1	14.6±5.13	36.18±2.25
AMF	1.48±0.35	1.6±0.34	1.94±0.2	3.42±1.18	7.76±0.6

BD, bulk density; SWC, soil water content; soil pH; C:N, ratio of soil organic carbon to total nitrogen; SOC, soil organic carbon; TN, soil total nitrogen; Ca, calcium; Mg, magnesium; AN, ammonium nitrogen; NN, nitrate nitrogen; MBC, microbial biomass carbon; MBN, microbial biomass nitrogen; bacteria; fungi; ACT, actinomycetes; and AMF, arbuscular mycorrhizal fungi.

Table S2. Nematode abundance (individuals per 100 g of dry soil) at 0–10 soil depth as affected by five land-use types (cropland, sugarcane, mulberry, and forage grass, and forest). Values are means ± SE.

Genus[a]	Guild	Cropland [b]	Sugarcane	Mulberry	Forage grass	Forest
Achromadora	Ba3	2.0±1.0b	1.8±1.5b	3.6±2b	3.7±1.8b	15.9±5.4a
Acrobeloides	Ba2	54.4±23.7	42.1±19	48±8.3	43.2±19.9	2.9±1.8
Alaimus	Ba4	3.3±1.3	7.2±3.5	4.2±2.1	1.6±0.8	35.9±17.1
Anguina	Pl3	3.4±1.6b	4.3±1.4b	4±1.2b	5.2±2.8b	14.8±7.6a
Aphanolaimus	Ba3	1.2±1.2	0.0±0.0	0.7±0.5	1.1±0.7	25.7±15.9
Aphelenchoides	Fu2	21±10.8b	20.9±5.8b	20.7±5.6b	14.3±4.4b	63.6±17.3a
Aphelenchus	Fu2	22.7±9.9	20.6±9	10.1±2.1	20.6±6.8	15.7±5.2
Aporcedorus	Pr5	0.0 ± 0.0b	0.0±0.0b	0.1±0.1b	0.4±0.4b	5.8±5.8a
Aporcelaimellus	Pr5	0.0 ± 0.0	0.6±0.6	0.5±0.3	1.5±0.8	0.8±0.8
Clarkus	Pr4	141.7±56.8ab	268.5±101.1a	13.3±5.5b	94.3±79.3ab	17.8±3.7b
Coomansus	Pr4	0.4±0.4b	8.2±6.9b	1.9±1.2b	1.5±1.5b	661.2±322.6a
Criconemella	Pl3	0.3±0.3	0.9±0.6	0.4±0.2	4.2±2.6	7.3±3.0
Diphtherophora	Fu3	0.0±0.0	0.3±0.3	0.0±0.0	1.0±0.7	0.0±0.0
Discomyctus	Om5	0.0±0.0	0.3±0.3	0.4±0.2	0.4±0.4	0.0±0.0
Ditylenchus	Fu2	4.9±2.6b	16.7±5.5b	5.5±1.3b	14.2±4.1b	47.9±16a
Dorylaimellus	Fu4	3.8±2.2	3.9±2.0	2.3±1.6	13.8±9.1	9.7±4.3
Epidorylaimus	Om4	11.2±8.8	8.0±7.3	3.5±1.3	0.3±0.3	0.0±0.0
Eucephalobus	Ba2	7.4±3.6b	14.7±5.2b	25.5±11.2b	21.0±7.0b	94.3±35.2a
Eudorylaimus	Om4	0.0±0.0	0.0±0.0	0.4±0.4	0.4±0.4	0.0±0.0
Filenchus	Fu2	44±25.3b	68.7±14b	22±7.4b	55.8±15.7b	159.5±59.9a
Helicotylenchus	Pl3	11.7±10.4	7.7±3.4	1.7±0.8	7.2±2.6	11.7±5.2
Heterocephalobus	Ba2	0.3±0.3	3.7±2.4	0.1±0.1	2.6±1.8	14.5±7.5
Heterodera	Pl3	0.0±0.0	0.0±0.0	0.2±0.2	0.0±0.0	0.0±0.0
Iotonchus	Pr4	0.0±0.0b	4.8±2ab	7.5±5.6ab	15.3±13.2ab	37.6±22.7a
Lelenchus	Pl2	0.0±0.0	0.7±0.7	0.2±0.2	1.1±1.1	5.0±3.0
Mesodorylaimus	Om5	0.0±0.0	0.0±0.0	0.2±0.2	0.0±0.0	0.0±0.0
Microdorylaimus	Om4	8.1±5.1	3.7±2.1	3.8±1.7	7.6±2.6	4.8±3.0
Microlaimus	Ba3	4.7±2.8b	3.4±1.0b	2.7±1b	6.9±4.7b	42.6±18a
Mononchus	Pr4	43.8±21.6ab	72.3±26.5a	0.5±0.3b	12±6.1b	0.0±0.0b
Mylonchulus	Pr4	6.2±4.8	111.3±62.4	1±0.8	70.9±31.9	0.0±0.0
Nimigula	Pl5	1.7±1.0b	1.3±0.9b	2.5±1.5ab	8±3.9ab	11.4±4.0a
Nygolaimus	Om5	0.0±0.0	0.7±0.7	0.0±0.0	0.0±0.0	0.0±0.0
Odontolaimus	Ba3	0.0±0.0	0.0±0.0	0.2±0.2	0.0±0.0	0.0±0.0
Oxybelondira	Pl5	2.2±1.2ab	1.2±0.9ab	0.8±0.6b	0.4±0.4b	8.3±5.2a
Panagrolaimus	Ba1	6.6±4.0	2.2±1.2	13.1±5.7	5.2±2.1	5.1±4.1
Paractinolaimus	Pr5	0.0±0.0	0.0±0.0	0.5±0.3	1.6±1.2	0.0±0.0
Paratylenchus	Pl3	2.2±2.2	3.4±2.1	0.6±0.3	1.6±0.8	3.5±2.6
Plectus	Ba2	11.4±5.5b	13.2±3.5b	8.3±2.2b	7.9±3.1b	58.8±20.7a
Pratylenchus	Pl3	0.0±0.0	0.0±0.0	0.3±0.3	4.0±4.0	0.0±0.0

Prismatolaimus	Ba3	49.4±34.1	45.2±20.4	21.5±8.7	32.7±17.6	22.3±7.6
Prodorylaimus	Om4	2.5±1.1b	3±1.4b	1.2±0.4b	7.3±2.4ab	29.1±15.8a
Protorhabditis	Ba1	1.8±1.1	4.9±2.3	1.7±0.6	5.2±2.4	2.5±2.5
Psilenchus	Pl2	5.8±4.2ab	4.0±1.0ab	1.9±0.6b	8.6±2.8ab	17.2±9.3a
Rhabditonema	Ba1	0.7±0.4	0.4±0.4	0.8±0.4	0.5±0.5	0.0±0.0
Rhabdolaimus	Ba3	0.0±0.0b	1.2±0.9b	1.1±0.8b	3.8±1.7b	33.1±23.1a
Seinura	Pr3	0.5±0.5b	0.0±0.0b	0.8±0.6b	1.9±0.9ab	5.2±3.2a
Teratocephalus	Ba3	0.0±0.0b	0.0±0.0b	0.2±0.1b	1±1ab	2.1±1.3a
Thonus	Om4	0.0±0.0	0.0±0.0	0.0±0.0	0.4±0.4	0.0±0.0
Thornia	Om4	0.3±0.3b	1.2±1.2b	0.0±0.0b	1±0.6b	8.5±4.8a
Tobrilus	Pr3	1.7±1.7	0.7±0.7	0.1±0.1	0.0±0.0	0.0±0.0
Tripyla	Pr3	0.0±0.0	0.0±0.0	0.1±0.1	0.9±0.6	1.3±1.3
Trophurus	Pl3	1.8±1.2b	3.7±2.4b	0.9±0.4b	3.4±1.2b	14.5±9a
Tylenchus	Fu2	0.0±0.0b	0.0±0.0b	0.1±0.1b	0.0±0.0b	4.6±2.8a
Tylocephalus	Ba2	0.0±0.0	0.0±0.0	0.4±0.4	0.5±0.5	0.0±0.0
Wilsonema	Ba2	0.0±0.0	0.0±0.0	1.1±0.8	2.4±1.8	0.0±0.0
Xiphinema	Pl5	1.2±0.6	0.7±0.4	0.3±0.2	13.2±10.9	13.2±9.6

[a] Guild designation is the composite of trophic group and cp value: Ba, bacterivore; Fu, fungivore; Pl, herbivore; Om, omnivore; Pr, predator.

[b] Values are means ± SE. Means in a row followed by different letters are significantly different at $p < 0.05$.

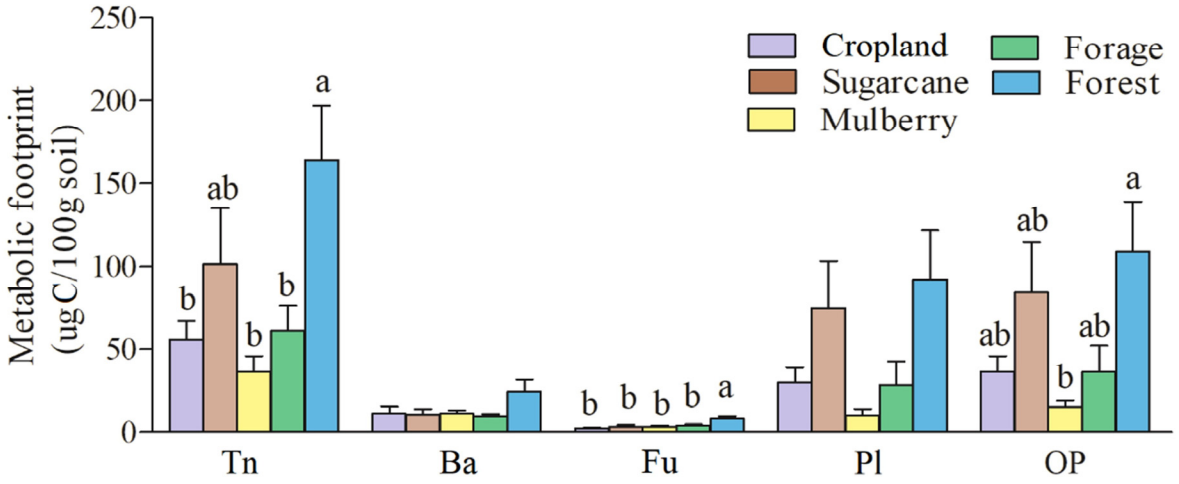


Figure S1. Soil nematode metabolic footprints as affected by land-use type: cropland, sugarcane, mulberry, forage grass, and forest. Tn, total nematode; Ba, bacterivore; Fu, fungivore; Pl, herbivore; OP, predator and omnivore. Values are mean ± SE. Within each group of bars, mean with the same or no letters are not significantly different ($p > 0.05$) according to the LSD test.

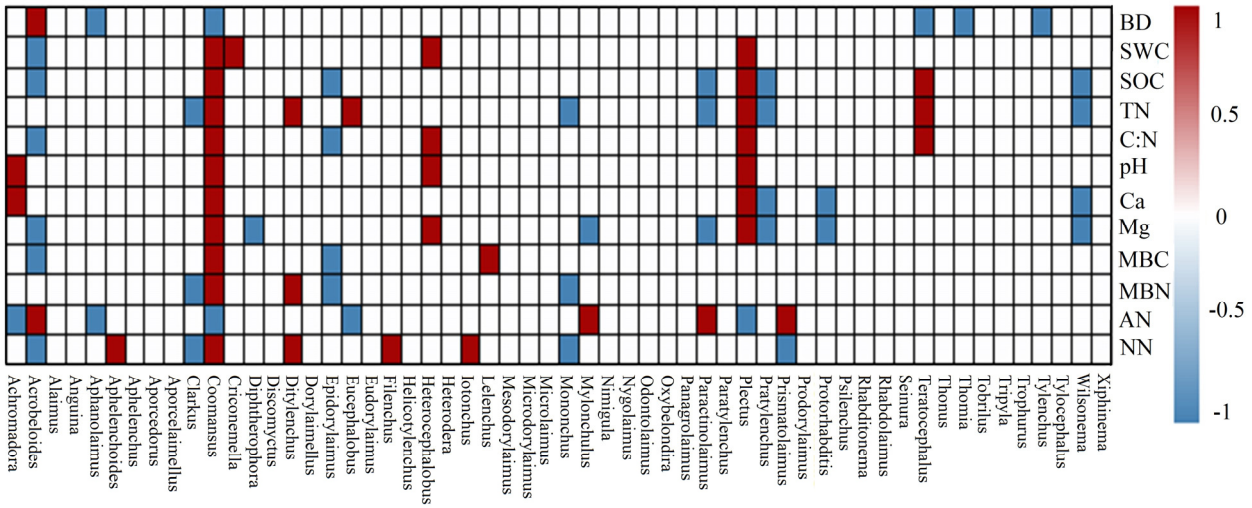


Figure S2. Correlation between soil nematode genera and physicochemical properties as affected by land-use type. Red and blue indicate positive and negative correlations, respectively ($P < 0.05$). Environmental factors: BD, bulk density; SWC, soil water content; TN, soil total nitrogen; SOC, soil organic carbon; C: N, ratio of soil organic carbon to total nitrogen; soil pH; Ca, calcium; Mg, magnesium; MBC, microbial biomass carbon; MBN, microbial biomass nitrogen; AN, ammonium nitrogen; NN, nitrate nitrogen.