

Elements	Forest	Jungle rubber	Rubber	Oil palm fertilized area	Oil palm frond-stacked area
Loam Acrisol soil					
pH	4.3 (0.0) ^{a †}	4.3 (0.1) ^{a †}	4.4 (0.0) ^{a †}	4.1 (0.1) ^{b †}	4.3 (0.0) ^{a †}
Ammonium (mg NH ₄ ⁺ -NL ⁻¹)	0.2 (0.0) ^{A †}	0.3 (0.1)	0.2 (0.0)	0.2 (0.0)	0.2 (0.0)
Nitrate (mg NO ₃ ⁻ -NL ⁻¹)	0.1 (0.1) ^b	0.1 (0.0) ^{bA}	0.0 (0.0) ^c	0.3 (0.2) ^a	0.1 (0.0) ^b
Dissolved organic N (mg NL ⁻¹)	0.2 (0.0) ^{aA †}	0.1 (0.0) ^b	0.1 (0.0) ^b	0.1 (0.0) ^{ab}	0.1 (0.0) ^b
Total dissolved N (mg NL ⁻¹)	0.5 (0.1) ^{A †}	0.4 (0.1) ^{A †}	0.2 (0.0)	0.6 (0.2)	0.3 (0.0)
Dissolved organic C (mg CL ⁻¹)	3.7 (0.3) ^{ab}	4.0 (0.5) ^{ab}	3.1 (0.2) ^c	4.2 (0.1) ^a	3.6 (0.1) ^b
Sodium (mg NaL ⁻¹)	3.2 (0.1) ^{bA}	2.4 (0.2) ^c	2.2 (0.2) ^c	7.2 (3.9) ^a	2.3 (0.3) ^c
Potassium (mg KL ⁻¹)	0.4 (0.0)	0.2 (0.1)	0.3 (0.1)	0.4 (0.1)	0.4 (0.1)
Calcium (mg CaL ⁻¹)	0.8 (0.0) ^b	0.7 (0.1) ^c	0.7 (0.1) ^c	2.7 (0.9) ^a	0.7 (0.1) ^c
Magnesium (mg MgL ⁻¹)	0.3 (0.0) ^{bA}	0.2 (0.0) ^c	0.3 (0.1) ^b	0.5 (0.1) ^a	0.2 (0.0) ^c
Total aluminum (mg AL ⁻¹)	0.4 (0.1) ^{bA}	0.2 (0.0) ^c	0.3 (0.0) ^b	1.2 (0.7) ^a	0.1 (0.0) ^c
Total iron (mg FeL ⁻¹)	0.2 (0.1) ^{A †}	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)
Total manganese (mg MnL ⁻¹)	0.02 (0.00)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00) ^B
Total phosphorus (mg PL ⁻¹)	0.008 (0.00) ^{a †}	0.004 (0.00) ^{b †}	0.003 (0.00) ^{c †}	0.005 (0.00) ^{ab †}	0.005 (0.00) ^{ab †}
Total sulfur (mg SL ⁻¹)	0.16 (0.00) ^{a †}	0.14 (0.00) ^{bc †}	0.10 (0.00) ^{c †}	0.14 (0.00) ^{ab †}	0.12 (0.00) ^{b †}
Total silica (mg SiL ⁻¹)	0.5 (0.1)	0.3 (0.1) ^{B †}	0.2 (0.1)	0.3 (0.1)	0.2 (0.0)
Chloride (mg CL ⁻¹)	8.9 (0.8) ^{bA †}	6.6 (0.8) ^c	6.7 (0.6) ^c	21.0 (2.7) ^a	6.2 (0.8) ^c
Clay Acrisol soil					
pH	4.3 (0.1) ^c	4.4 (0.1) ^{bc}	4.4 (0.0) ^c	4.6 (0.1) ^{ab}	4.6 (0.1) ^a
Ammonium (mg NH ₄ ⁺ -NL ⁻¹)	0.2 (0.0) ^{B †}	0.1 (0.0)	0.1 (0.0)	0.2 (0.0)	0.1 (0.0)
Nitrate (mg NO ₃ ⁻ -NL ⁻¹)	0.1 (0.0)	0.0 (0.0) ^B	0.2 (0.1)	0.9 (0.9)	0.0 (0.0)
Dissolved organic N (mg NL ⁻¹)	0.1 (0.0) ^{a †B †}	0.1 (0.0) ^{a †}	0.1 (0.0) ^{ab †}	0.0 (0.0) ^{b †}	0.0 (0.0) ^{b †}
Total dissolved N (mg NL ⁻¹)	0.3 (0.0) ^{B †}	0.2 (0.0) ^{B †}	0.4 (0.1)	1.1 (0.9)	0.2 (0.0)
Dissolved organic C (mg CL ⁻¹)	3.3 (0.4)	4.0 (0.3)	2.9 (0.1)	4.8 (0.9)	4.4 (1.1)
Sodium (mg NaL ⁻¹)	2.4 (0.2) ^{bcB}	2.5 (0.1) ^b	2.0 (0.1) ^c	4.6 (1.2) ^a	2.5 (0.5) ^{bc}
Potassium (mg KL ⁻¹)	0.3 (0.0)	0.3 (0.1)	0.3 (0.0)	0.4 (0.1)	0.2 (0.1)
Calcium (mg CaL ⁻¹)	0.7 (0.1)	0.7 (0.0)	0.7 (0.1)	0.8 (0.2)	0.5 (0.1)
Magnesium (mg MgL ⁻¹)	0.3 (0.0) ^B	0.3 (0.0)	0.3 (0.0)	0.4 (0.1)	0.2 (0.1)
Total aluminum (mg AL ⁻¹)	0.2 (0.0) ^B	0.2 (0.1)	0.3 (0.1)	0.2 (0.1)	0.1 (0.0)
Total iron (mg FeL ⁻¹)	0.0 (0.0) ^{b †B †}	0.0 (0.0) ^{b †}	0.0 (0.0) ^{b †}	0.0 (0.0) ^{b †}	0.1 (0.0) ^{a †}
Total manganese (mg MnL ⁻¹)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)	0.08 (0.10)	0.02 (0.00)
Total phosphorus (mg PL ⁻¹)	0.010 (0.00)	0.004 (0.00)	0.004 (0.00)	0.004 (0.00)	0.010 (0.00)
Total sulfur (mg SL ⁻¹)	0.15 (0.00)	0.11 (0.00)	0.11 (0.00)	0.13 (0.00)	0.12 (0.00)
Total silica (mg SiL ⁻¹)	0.4 (0.0)	0.6 (0.1) ^{A †}	0.3 (0.0)	1.0 (0.4)	0.7 (0.2)
Chloride (mg CL ⁻¹)	6.4 (0.6) ^{B †}	6.8 (0.9)	5.7 (0.8)	7.2 (2.1)	4.6 (0.8)