Table S1. Effect of root and foliar humic substances application on N, IE, PFP, and NE.

	N (mg g^{-1} DW)	IE (g g^{-1})	PFP (g g^{-1})	NE (mg)
Control	51.75 ± 0.30d	2.23 ± 0.22bcd	354.67 ± 8.75c	115.70 ± 12.15cd
R1	54.25 ± 0.14a	2.25 ± 0.11bcd	409.66 ± 18.55a	122.10 ± 6.27cd
R2	52.35 ± 0.27c	2.65 ± 0.01bc	415.32 ± 13.95a	138.72 ± 1.01bc
R3	53.99 ± 0.22ab	3.95 ± 0.48a	436.92 ± 12.78a	189.86 ± 13.20a
R4	51.95 ± 0.08cd	2.00 ± 0.15d	327.88 ± 14.74c	103.76 ± 8.06d
F1	53.48 ± 0.11b	2.78 ± 0.04b	363.09 ± 12.11bc	148.40 ± 2.61b
F2	50.44 ± 0.05e	2.55 ± 0.12bcd	138.72 ± 1.01ab	128.48 ± 6.34bcd
F3	50.34 ± 0.17e	2.72 ± 0.22bc	189.86 ± 13.20ab	136.81 ± 11.35bc
F4	52.43 ± 0.20c	2.12 ± 0.11cd	103.76 ± 8.06c	111.02 ± 6.16d
p-value	***	***	***	***
$LSD_{0.05}$	0.57	0.62	38.76	25.07

Abbreviations: N: nitrogen; IE: internal utilization efficiency of a nutrient; PFP: partial factor productivity of applied nutrient; NE: nutrient export of applied nutrient in shoot. All data values represent means ± standard error (n=3). The levels of significance were represented as NS (p>0.05), * (p < 0.05), *** (p < 0.001). Values with different letters indicate significant differences.

Table S2. Effect of root and foliar humic substances application on P, IE, PFP, and NE.

	P (mg g^{-1} DW)	IE (g g^{-1})	PFP (g g^{-1})	NE (mg)
Control	3.94 ± 0.05ab	0.254 ± 0.004cd	533.91 ± 13.17c	8.82 ± 0.99bcd
R1	3.93 ± 0.04ab	0.255 ± 0.002cd	616.69 ± 27.93a	8.83 ± 0.38bcd
R2	3.72 ± 0.02c	0.267 ± 0.001ab	625.21 ± 21.00a	9.86 ± 0.07bc
R3	3.83 ± 0.06bc	0.261 ± 0.004bc	657.72 ± 19.25a	15.11 ± 1.80a
R4	3.71 ± 0.04c	0.270 ± 0.003a	493.59 ± 22.19c	7.41 ± 0.53d
F1	3.86 ± 0.01b	0.259 ± 0.001c	546.59 ± 18.23bc	10.72 ± 0.19bc
F2	3.87 ± 0.05b	0.258 ± 0.003c	602.92 ± 6.71ab	9.84 ± 0.34bc
F3	4.02 ± 0.02a	0.249 ± 0.001d	601.13 ± 24.29ab	10.94 ± 0.94b
F4	4.01 ± 0.02a	0.249 ± 0.001d	519.98 ± 13.64c	8.49 ± 0.45cd
p-value	***	***	***	***
$LSD_{0.05}$	0.12	0.008	58.35	2.40

Abbreviations: P: phosphorus; IE: internal utilization efficiency of a nutrient; PFP: partial factor productivity of applied nutrient; NE: nutrient export of applied nutrient in shoot. All data values represent means ± standard error (n=3). The levels of significance were represented as NS (p>0.05), * (p < 0.05), *** (p < 0.001). Values with different letters indicate significant differences.

Table S3. Effect of root and foliar humic substances application on K, IE, PFP, and NE.

	K (mg g^{-1} DW)	IE (g g^{-1})	PFP (g g^{-1})	NE (mg)
Control	30.62 ± 0.33c	0.0327 ± 0.0004bc	169.47 ± 4.18c	68.51 ± 7.36c
R1	31.24 ± 0.58bc	0.0320 ± 0.0006bcd	195.74 ± 8.67a	70.21 ± 2.73c
R2	30.34 ± 0.26c	0.0330 ± 0.0003b	198.44 ± 6.66a	80.39 ± 0.85bc
R3	35.58 ± 0.57a	0.0281 ± 0.0004e	208.77 ± 6.11a	140.35 ± 16.38a
R4	31.75 ± 0.57b	0.0315 ± 0.0004d	156.67 ± 7.04c	63.30 ± 4.23c
F1	34.77 ± 0.32a	0.0288 ± 0.0003e	173.49 ± 5.79bc	96.47 ± 1.01b
F2	28.99 ± 0.08d	0.0345 ± 0.0001a	191.37 ± 2.13ab	73.81 ± 3.41c
F3	30.60 ± 0.26c	0.0327 ± 0.0003bc	190.80 ± 7.71ab	83.25 ± 7.35bc
F4	31.33 ± 0.10bc	0.0319 ± 0.0001cd	165.05 ± 4.33c	66.32 ± 3.56c
p-value	***	***	***	***
$LSD_{0.05}$	1.08	0.0010	18.52	20.49

Abbreviations: K: potassium; IE: internal utilization efficiency of a nutrient; PFP: partial factor productivity of applied nutrient; NE: nutrient export of applied nutrient in shoot. All data values represent means ± standard error (n=3). The levels of significance were represented as NS (p>0.05), * (p < 0.05), *** (p < 0.001). Values with different letters indicate significant differences.