Supplementary Information (SI) for Environmental Science: Nano.
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Table S1. Weekly variation in available nitrogen (mg kg^{-1}) during incubation under different nitrogen treatments.

Treatment	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
L1	110.6 ± 0.27	112.7 ± 1.23	113.1 ± 0.82	113.7 ± 2.84	107.4 ± 1.73	104.7 ± 0.33	101.4 ± 1.42	98.6 ± 2.36	96.4 ± 1.3	93.1 ± 0.29
L2	174.5 ± 3.93	178.1 ± 0.37	183.4 ± 4.29	181.4 ± 0.19	177.1 ± 2.3	172.5 ± 1.62	164.5 ± 0.94	161.7 ± 0.67	154.9 ± 1.05	152.4 ± 0.63
L3	168.4 ± 3.52	173.5 ± 1.26	177.8 ± 2.41	176.1 ± 1.65	172.5 ± 1.97	169.4 ± 3.53	161.8 ± 2.27	155.1 ± 3.87	152.4 ± 3.65	149.1 ± 0.16
L4	162.4 ± 3.52	167.4 ± 0.87	172.3 ± 2.42	174.8 ± 1.36	179.6 ± 2.34	172.5 ± 1.97	170.4 ± 3.81	167.5 ± 4.01	161.8 ± 3.03	154.7 ± 2.66
L5	141.6 ± 3.2	145.3 ± 3.63	149.7 ± 2.65	147.4 ± 2.38	142.5 ± 2.82	139.4 ± 3.12	136.7 ± 1.99	134.1 ± 1.4	131.7 ± 2.06	129.1 ± 1.75
L6	146.5 ± 2.79	148.4 ± 1.62	151.7 ± 2.29	152.9 ± 1.03	151.1 ± 0.55	144.8 ± 3.01	142.1 ± 2.51	136.8 ± 3.2	135.1 ± 0.07	131.5 ± 0.62
L7	148.1 ± 2.34	151.7 ± 0.16	154.5 ± 1.61	155.9 ± 1.7	160.7 ± 2.34	157.9 ± 2.79	152.1 ± 3.09	147.3 ± 0.77	140.1 ± 3.57	133.9 ± 3
L8	142.2 ± 0.04	144.1 ± 3.67	147.9 ± 2.77	153.4 ± 3.03	156.8 ± 0.24	161.1 ± 1.26	157.9 ± 3.04	155.4 ± 1.37	147.1 ± 0.84	142.4 ± 0.44
L9	138.5 ± 1.68	140.2 ± 0.07	143.4 ± 2.61	147.8 ± 3.38	150.4 ± 0.11	154.6 ± 2.9	158.4 ± 1.15	156.1 ± 2.11	150.2 ± 0.08	144.6 ± 3.16
L10	140.2 ± 2.05	142.1 ± 2.74	145.3 ± 1.36	148.4 ± 1.08	150.6 ± 2.35	153.7 ± 3.28	156.3 ± 1.55	154.7 ± 2.25	149.4 ± 1.32	146.1 ± 0.3
S.Ed (±)	**3.764**	**2.857**	**3.519**	**2.969**	**2.719**	**3.644**	**3.327**	**3.500**	**2.991**	**2.462**
C.D (p=0.05)	**7.851**	**5.959**	**7.342**	**6.192**	**5.672**	**7.602**	**6.940**	**7.301**	**6.240**	**5.135**

Values represent mean ± standard error (n = 3). S.Ed: standard error of difference; C.D.: critical difference at p = 0.05

L1: Absolute control; L2: 100% N as urea; L3: 75% N as urea; L4: 75% N as urea + 25% N as nano urea; L5: 50% N as urea; L6: 50% N as urea + 25% N as nano urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea; L9: 75% N as nano urea; L10: 100% N as nano urea.

Table S2. Elovich model parameters describing nitrogen release dynamics under different nitrogen treatments.

Treatment	Peak week	Maximum net release, q_{max} (ppm)	Elovich constant, β	R^2
L2	3	8.9	0.131	1.000
L3	3	9.4	0.161	1.000
L4	5	17.2	0.121	0.981
L5	3	8.1	0.158	1.000
L6	4	6.4	0.240	0.995
L7	5	12.6	0.172	0.936
L8	6	18.9	0.096	0.966
L9	7	19.9	0.101	0.948
L10	7	16.1	0.129	0.967

q_{max} represents the maximum net nitrogen release calculated as the difference between peak available N and initial available N. Elovich parameters were estimated from the ascending phase of nitrogen release. R^2 denotes the coefficient of determination.

L2: 100% N as urea; L3: 75% N as urea; L4: 75% N as urea + 25% N as nano urea; L5: 50% N as urea; L6: 50% N as urea + 25% N as nano urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea; L9: 75% N as nano urea; L10: 100% N as nano urea

Table S3. Temporal variation in cumulative ammonia (NH_3–N) volatilization under different nitrogen treatments.

Treatment	Day 3	Day 6	Day 9	Day 12	Day 15	Day 18	Day 21
L1	1.63 ± 0.01^{e}	1.86 ± 0.01^{f}	1.16 ± 0.01^{h}	0.00 ± 0.00^{g}	0.00 ± 0.00^{g}	0.00 ± 0.00^{f}	0.00
L2	5.83 ± 0.09^{a}	6.06 ± 0.14^{a}	4.90 ± 0.04^{a}	3.96 ± 0.10^{a}	2.33 ± 0.05^{a}	1.63 ± 0.01^{a}	0.00
L3	4.66 ± 0.09^{b}	4.90 ± 0.01^{b}	3.96 ± 0.06^{b}	2.10 ± 0.01^{e}	1.86 ± 0.01^{b}	1.40 ± 0.03^{b}	0.00
L4	4.66 ± 0.02^{b}	5.13 ± 0.13^{b}	3.50 ± 0.03^{c}	2.33 ± 0.01^{d}	1.63 ± 0.04^{c}	0.93 ± 0.02^{d}	0.00
L5	2.80 ± 0.07^{c}	3.03 ± 0.06^{d}	2.56 ± 0.03^{g}	1.86 ± 0.05^{f}	1.40 ± 0.02^{d}	0.93 ± 0.02^{d}	0.00
L6	2.80 ± 0.07^{c}	3.26 ± 0.05^{d}	3.03 ± 0.01^{e}	2.10 ± 0.02^{e}	1.16 ± 0.01^{e}	0.00 ± 0.00^{f}	0.00
L7	3.03 ± 0.08^{c}	3.50 ± 0.07^{c}	3.26 ± 0.03^{d}	2.33 ± 0.01^{d}	1.63 ± 0.04^{c}	0.70 ± 0.01^{e}	0.00
L8	3.03 ± 0.07^{c}	3.73 ± 0.06^{c}	3.50 ± 0.02^{c}	3.03 ± 0.03^{b}	1.86 ± 0.04^{b}	1.16 ± 0.02^{c}	0.00
L9	2.56 ± 0.04^{d}	2.80 ± 0.06^{e}	3.03 ± 0.02^{e}	2.33 ± 0.03^{d}	0.93 ± 0.01^{f}	0.00 ± 0.00^{f}	0.00
L10	2.33 ± 0.01^{d}	2.56 ± 0.03^{e}	2.80 ± 0.05^{f}	2.56 ± 0.04^{c}	1.40 ± 0.01^{d}	0.00 ± 0.00^{f}	0.00
S.Ed (±)	**0.09**	**0.11**	**0.05**	**0.06**	**0.04**	**0.02**	**–**
C.D. (p = 0.05)	**0.19**	**0.22**	**0.10**	**0.12**	**0.09**	**0.04**	**–**

Values represent mean ± standard error (n = 3). S.Ed: standard error of difference; C.D.: critical difference at p = 0.05. L1: Absolute control; L2: 100% N as urea; L3: 75% N as urea; L4: 75% N as urea + 25% N as nano urea; L5: 50% N as urea; L6: 50% N as urea + 25% N as nano urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea; L9: 75% N as nano urea; L10: 100% N as nano urea.

Table S4. Weekly nitrate-N recovered in leachate (mg kg^{-1} soil) from soil columns monitored at 10, 20 and 30 cm depths under different nitrogen treatments.

(A) 10 cm depth

Treatment	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
L1	3.72 ± 0.09^{f}	4.65 ± 0.11^{h}	4.65 ± 0.05^{h}	5.60 ± 0.12^{h}	7.45 ± 0.15^{g}	5.60 ± 0.00^{h}	4.65 ± 0.05^{g}	3.72 ± 0.07^{e}	2.80 ± 0.01^{d}	2.80 ± 0.06^{b}
L2	14.00 ± 0.11^{a}	14.92 ± 0.17^{a}	15.85 ± 0.23^{a}	17.72 ± 0.17^{a}	14.92 ± 0.02^{b}	11.20 ± 0.17^{d}	10.25 ± 0.10^{b}	7.45 ± 0.16^{a}	5.60 ± 0.14^{a}	3.72 ± 0.07^{a}
L3	12.12 ± 0.02^{b}	13.05 ± 0.29^{c}	14.00 ± 0.03^{c}	14.92 ± 0.03^{b}	14.00 ± 0.07^{c}	12.12 ± 0.16^{c}	10.25 ± 0.04^{b}	6.52 ± 0.08^{b}	4.65 ± 0.09^{b}	2.80 ± 0.07^{b}
L4	12.12 ± 0.14^{b}	14.00 ± 0.15^{b}	14.92 ± 0.08^{b}	14.92 ± 0.19^{b}	16.80 ± 0.29^{a}	14.00 ± 0.16^{b}	12.12 ± 0.21^{a}	7.45 ± 0.15^{a}	3.72 ± 0.03^{c}	2.80 ± 0.04^{b}
L5	7.45 ± 0.11^{d}	8.40 ± 0.07^{g}	9.32 ± 0.14^{g}	7.45 ± 0.13^{g}	6.52 ± 0.11^{h}	6.52 ± 0.07^{g}	5.60 ± 0.01^{f}	4.65 ± 0.11^{d}	3.72 ± 0.09^{c}	2.80 ± 0.01^{b}
L6	7.45 ± 0.10^{d}	9.32 ± 0.01^{f}	10.25 ± 0.09^{f}	9.32 ± 0.24^{f}	8.40 ± 0.15^{f}	7.45 ± 0.03^{f}	6.52 ± 0.16^{e}	5.60 ± 0.09^{c}	4.65 ± 0.06^{b}	2.80 ± 0.01^{b}
L7	8.40 ± 0.06^{c}	10.25 ± 0.19^{e}	11.20 ± 0.10^{e}	12.12 ± 0.14^{d}	10.25 ± 0.02^{e}	8.40 ± 0.02^{e}	7.45 ± 0.09^{d}	3.72 ± 0.02^{e}	3.72 ± 0.03^{c}	2.80 ± 0.02^{b}
L8	8.40 ± 0.07^{c}	11.20 ± 0.24^{d}	12.12 ± 0.08^{d}	14.00 ± 0.12^{c}	13.05 ± 0.24^{d}	8.40 ± 0.21^{e}	7.45 ± 0.02^{d}	4.65 ± 0.03^{d}	3.72 ± 0.03^{c}	2.80 ± 0.00^{b}
L9	7.45 ± 0.04^{d}	9.32 ± 0.14^{f}	11.20 ± 0.03^{e}	12.12 ± 0.20^{d}	13.05 ± 0.32^{d}	8.40 ± 0.21^{e}	5.60 ± 0.06^{f}	5.60 ± 0.11^{c}	4.65 ± 0.05^{b}	2.80 ± 0.02^{b}
L10	6.52 ± 0.12^{e}	8.40 ± 0.05^{g}	10.25 ± 0.20^{f}	11.20 ± 0.10^{e}	13.05 ± 0.33^{d}	14.92 ± 0.27^{a}	8.40 ± 0.09^{c}	7.45 ± 0.07^{a}	4.65 ± 0.02^{b}	2.80 ± 0.01^{b}
S.Ed (±)	**0.131**	**0.233**	**0.172**	**0.216**	**0.289**	**0.225**	**0.146**	**0.139**	**0.093**	**0.055**
C.D (p=0.05)	**0.273**	**0.487**	**0.36**	**0.45**	**0.603**	**0.469**	**0.305**	**0.29**	**0.195**	**0.114**

Values represent mean ± standard error (n = 3). S.Ed: standard error of difference; C.D.: critical difference at p = 0.05. L1: Absolute control; L2: 100% N as urea; L3: 75% N as urea; L4: 75% N as urea + 25% N as nano urea; L5: 50% N as urea; L6: 50% N as urea + 25% N as nano urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea; L9: 75% N as nano urea; L10: 100% N as nano urea.

(B) 20 cm depth

Treatment	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
L1	4.65 ± 0.12^{g}	6.52 ± 0.02^{i}	7.45 ± 0.01^{h}	7.45 ± 0.12^{h}	8.40 ± 0.14^{h}	6.52 ± 0.15^{h}	4.65 ± 0.04^{h}	3.72 ± 0.04^{f}	3.72 ± 0.04^{d}	2.80 ± 0.06^{c}
L2	14.92 ± 0.35^{a}	15.85 ± 0.37^{a}	16.80 ± 0.15^{a}	18.65 ± 0.02^{a}	15.85 ± 0.14^{b}	12.12 ± 0.02^{d}	11.20 ± 0.16^{b}	8.40 ± 0.08^{a}	6.52 ± 0.12^{a}	4.65 ± 0.04^{a}
L3	13.05 ± 0.06^{b}	14.00 ± 0.27^{c}	14.92 ± 0.13^{c}	15.85 ± 0.40^{b}	14.92 ± 0.19^{c}	13.05 ± 0.26^{c}	11.20 ± 0.20^{b}	7.45 ± 0.18^{b}	5.60 ± 0.08^{b}	3.72 ± 0.05^{b}
L4	13.05 ± 0.04^{b}	14.92 ± 0.16^{b}	15.85 ± 0.21^{b}	15.85 ± 0.36^{b}	17.72 ± 0.17^{a}	14.92 ± 0.24^{b}	13.05 ± 0.16^{a}	8.40 ± 0.20^{a}	4.65 ± 0.12^{c}	3.72 ± 0.03^{b}
L5	8.40 ± 0.12^{d}	9.32 ± 0.01^{g}	10.25 ± 0.03^{g}	8.40 ± 0.00^{g}	7.45 ± 0.07^{i}	7.45 ± 0.07^{g}	6.52 ± 0.07^{f}	5.60 ± 0.01^{d}	4.65 ± 0.04^{c}	3.72 ± 0.06^{b}
L6	8.40 ± 0.17^{d}	10.25 ± 0.05^{f}	11.17 ± 0.15^{f}	10.25 ± 0.23^{f}	9.32 ± 0.10^{g}	8.40 ± 0.08^{f}	7.45 ± 0.12^{e}	6.52 ± 0.14^{c}	5.60 ± 0.01^{b}	3.72 ± 0.04^{b}
L7	9.32 ± 0.04^{c}	11.20 ± 0.28^{e}	12.12 ± 0.05^{e}	13.05 ± 0.25^{d}	11.20 ± 0.17^{f}	9.32 ± 0.04^{e}	8.40 ± 0.07^{d}	4.65 ± 0.05^{e}	4.65 ± 0.07^{c}	3.72 ± 0.07^{b}
L8	9.32 ± 0.16^{c}	12.12 ± 0.21^{d}	13.05 ± 0.06^{d}	14.92 ± 0.25^{c}	14.00 ± 0.28^{d}	9.32 ± 0.01^{e}	8.40 ± 0.08^{d}	5.60 ± 0.06^{d}	4.65 ± 0.11^{c}	3.72 ± 0.03^{b}
L9	7.45 ± 0.12^{e}	8.40 ± 0.15^{h}	11.20 ± 0.09^{f}	12.12 ± 0.18^{e}	13.05 ± 0.26^{e}	15.85 ± 0.14^{a}	5.60 ± 0.11^{g}	6.52 ± 0.08^{c}	5.60 ± 0.08^{b}	3.72 ± 0.05^{b}
L10	6.52 ± 0.02^{f}	9.32 ± 0.01^{g}	11.17 ± 0.13^{f}	12.12 ± 0.06^{e}	14.00 ± 0.04^{d}	15.85 ± 0.26^{a}	9.32 ± 0.07^{c}	8.37 ± 0.07^{a}	5.60 ± 0.01^{b}	3.72 ± 0.00^{b}
S.Ed (±)	**0.212**	**0.278**	**0.166**	**0.323**	**0.242**	**0.225**	**0.17**	**0.155**	**0.11**	**0.067**
C.D (p=0.05)	**0.443**	**0.579**	**0.346**	**0.673**	**0.504**	**0.47**	**0.354**	**0.323**	**0.229**	**0.14**

Values represent mean ± standard error (n = 3). S.Ed: standard error of difference; C.D.: critical difference at p = 0.05. L1: Absolute control; L2: 100% N as urea; L3: 75% N as urea; L4: 75% N as urea + 25% N as nano urea; L5: 50% N as urea; L6: 50% N as urea + 25% N as nano urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea; L9: 75% N as nano urea; L10: 100% N as nano urea.

(C) 30 cm depth

Treatment	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
L1	4.65 ± 0.00^{f}	5.60 ± 0.06^{i}	8.40 ± 0.21^{h}	9.32 ± 0.10^{g}	9.32 ± 0.18^{h}	10.25 ± 0.10^{f}	7.45 ± 0.05^{f}	4.65 ± 0.06^{f}	3.72 ± 0.09^{d}	2.80 ± 0.07^{c}
L2	15.85 ± 0.05^{a}	16.80 ± 0.18^{a}	17.72 ± 0.44^{a}	19.60 ± 0.14^{a}	16.80 ± 0.35^{b}	13.05 ± 0.08^{d}	12.12 ± 0.10^{b}	9.32 ± 0.12^{a}	7.45 ± 0.02^{a}	5.52 ± 0.13^{a}
L3	14.00 ± 0.31^{b}	14.92 ± 0.03^{c}	15.85 ± 0.14^{c}	16.80 ± 0.31^{b}	15.85 ± 0.35^{c}	14.00 ± 0.07^{c}	12.12 ± 0.15^{b}	8.40 ± 0.01^{b}	6.52 ± 0.08^{b}	4.65 ± 0.01^{b}
L4	14.00 ± 0.27^{b}	15.85 ± 0.18^{b}	16.80 ± 0.15^{b}	16.80 ± 0.24^{b}	18.65 ± 0.04^{a}	15.85 ± 0.07^{b}	14.00 ± 0.04^{a}	9.32 ± 0.01^{a}	5.60 ± 0.05^{c}	4.65 ± 0.01^{b}
L5	9.32 ± 0.14^{d}	10.25 ± 0.17^{g}	11.20 ± 0.17^{g}	9.32 ± 0.05^{g}	8.40 ± 0.01^{i}	8.40 ± 0.03^{h}	7.45 ± 0.05^{f}	6.52 ± 0.14^{d}	5.60 ± 0.14^{c}	4.65 ± 0.04^{b}
L6	9.32 ± 0.13^{d}	11.20 ± 0.26^{f}	12.10 ± 0.14^{f}	11.20 ± 0.15^{f}	10.25 ± 0.05^{g}	9.32 ± 0.21^{g}	8.37 ± 0.18^{e}	7.45 ± 0.11^{c}	6.52 ± 0.16^{b}	4.65 ± 0.12^{b}
L7	10.25 ± 0.19^{c}	12.12 ± 0.21^{e}	13.05 ± 0.03^{e}	14.00 ± 0.24^{d}	12.12 ± 0.19^{f}	10.25 ± 0.20^{f}	9.32 ± 0.18^{d}	5.60 ± 0.06^{e}	5.60 ± 0.10^{c}	4.65 ± 0.05^{b}
L8	10.25 ± 0.21^{c}	13.05 ± 0.29^{d}	14.00 ± 0.33^{d}	15.85 ± 0.38^{c}	14.92 ± 0.33^{d}	10.25 ± 0.03^{f}	9.32 ± 0.09^{d}	6.52 ± 0.15^{d}	5.60 ± 0.06^{c}	4.65 ± 0.11^{b}
L9	9.32 ± 0.16^{d}	10.25 ± 0.03^{g}	12.12 ± 0.22^{f}	13.05 ± 0.10^{e}	14.00 ± 0.27^{e}	11.20 ± 0.23^{e}	8.40 ± 0.17^{e}	7.45 ± 0.14^{c}	6.52 ± 0.13^{b}	4.65 ± 0.03^{b}
L10	7.45 ± 0.08^{e}	8.40 ± 0.06^{h}	11.20 ± 0.23^{g}	13.05 ± 0.12^{e}	15.85 ± 0.19^{c}	16.80 ± 0.39^{a}	11.20 ± 0.05^{c}	9.32 ± 0.11^{a}	6.52 ± 0.15^{b}	4.65 ± 0.02^{b}
S.Ed (±)	**0.251**	**0.245**	**0.33**	**0.295**	**0.328**	**0.251**	**0.169**	**0.146**	**0.155**	**0.103**
C.D (p=0.05)	**0.524**	**0.511**	**0.689**	**0.615**	**0.684**	**0.524**	**0.353**	**0.305**	**0.323**	**0.215**

Values represent mean ± standard error (n = 3). S.Ed: standard error of difference; C.D.: critical difference at p = 0.05. L1: Absolute control; L2: 100% N as urea; L3: 75% N as urea; L4: 75% N as urea + 25% N as nano urea; L5: 50% N as urea; L6: 50% N as urea + 25% N as nano urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea; L9: 75% N as nano urea; L10: 100% N as nano urea.

Table S5. Nitrogen input supplied through soil and foliar application under different treatments

Treatment	Soil-applied N (mg pot^{-1})	Foliar N (mg pot^{-1})	Total N applied (mg pot^{-1})
T1	0	0	0
T2	1250.00	0	1250.00
T3	937.50	0	937.50
T4	937.50	51.75	989.25
T5	625.00	51.75	676.75
T6	937.50	15.56	953.06
T7	625.00	15.56	640.56
T8	0	15.56	15.56

T1: Control (no nitrogen); T2: 100% N as ^{15}N-labelled urea; T3: 75% N as ^{15}N-labelled urea; T4: 75% N as ^{15}N-labelled urea + two foliar sprays of ^{15}N urea (1%); T5: 50% N as ^{15}N-labelled urea + two foliar sprays of ^{15}N urea (1%); T6: 75% N ^{15}N-labelled as urea + two foliar sprays of ^{15}N nano urea (0.7%); T7: 50% N as ^{15}N-labelled urea + two foliar sprays of ^{15}N nano urea (0.7%); T8: No soil-applied N + two foliar sprays of ^{15}N nano urea (0.7%).

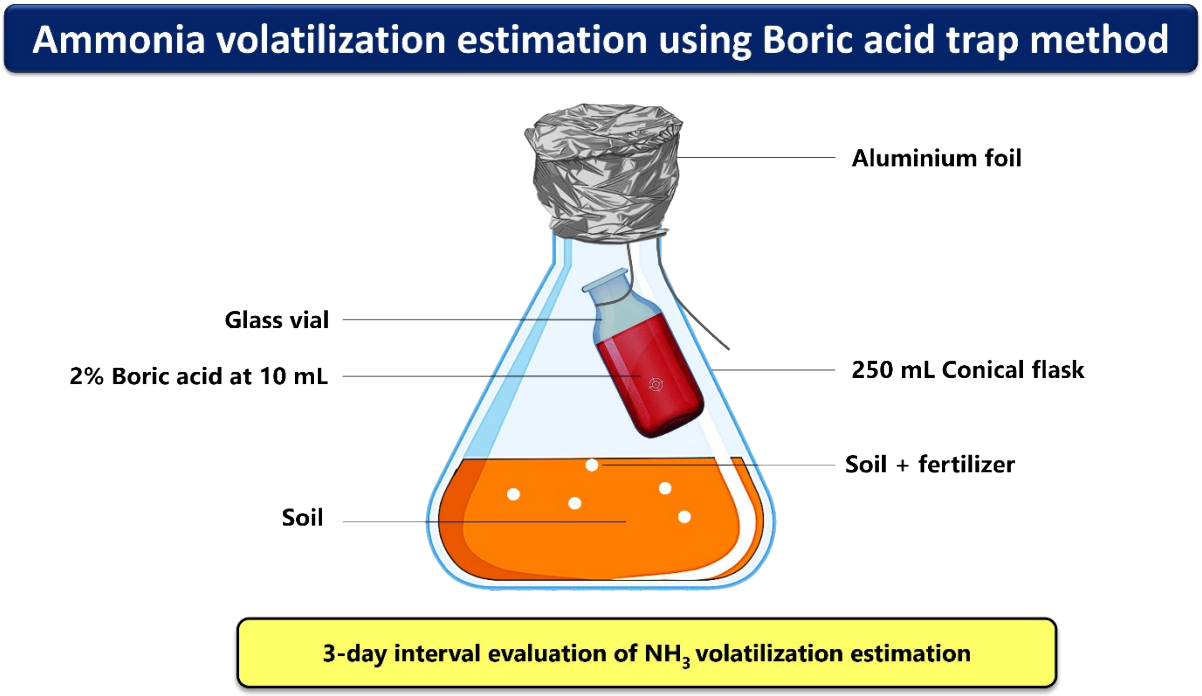

Figure S1. Experimental setup used for ammonia volatilization estimation employing the boric acid trap method under laboratory incubation conditions.

Ammonia (NH_3) volatilized from the treated soil was trapped in boric acid solution and quantified at 3-day intervals throughout the incubation period.

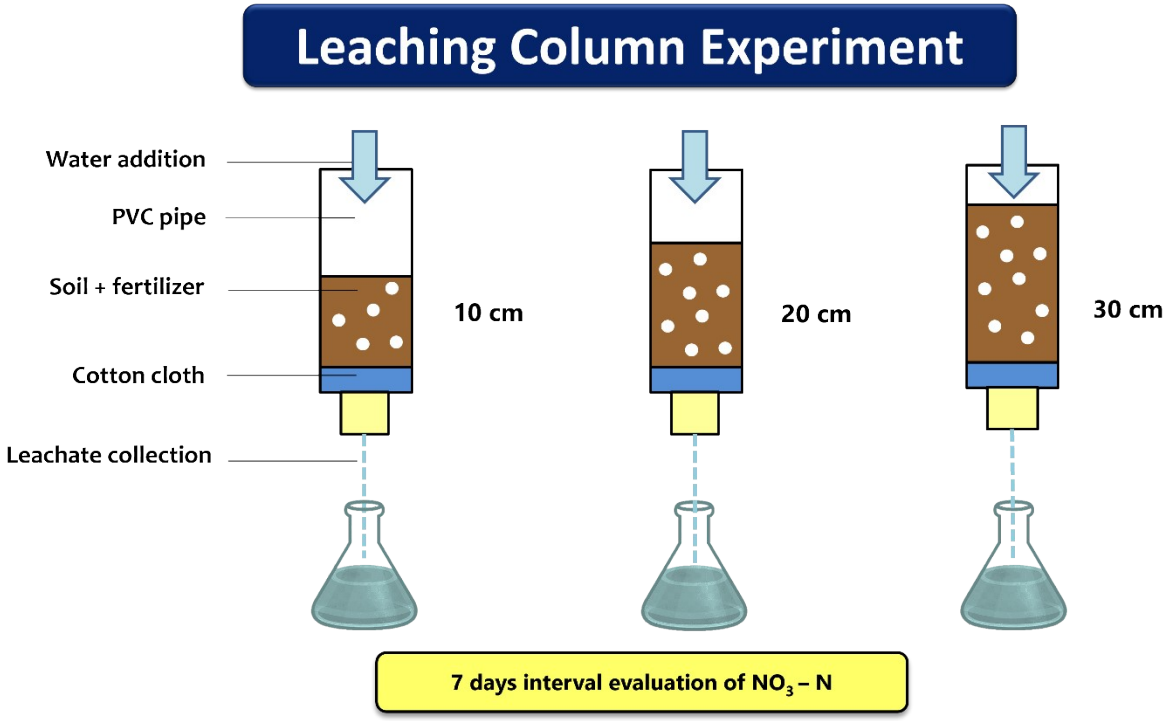

Figure S2. Schematic representation of the leaching column experiment used to evaluate nitrate-nitrogen (NO_3^--N) movement and leaching losses under different fertilizer treatments.

Leachate samples were collected from the bottom outlet of the soil columns at 7-day intervals throughout the experimental period for NO_3^--N estimation.

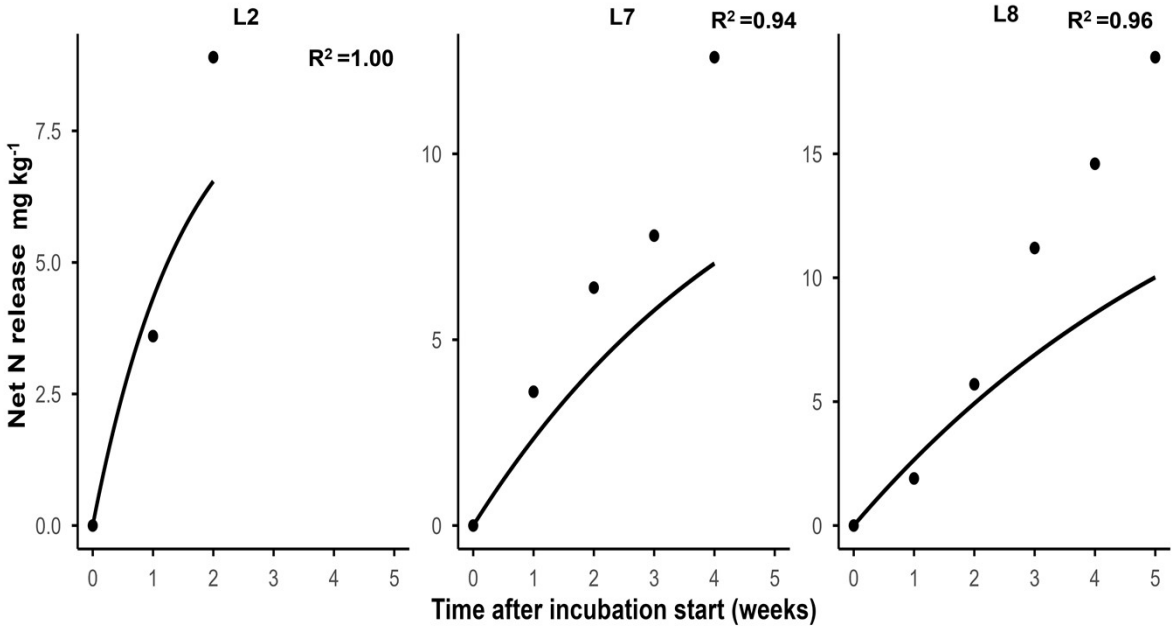

Figure S3. First-order kinetic modelling of nitrogen release during incubation under representative nitrogen treatments.

Points indicate observed net N release during the ascending phase, and solid lines represent curves generated from the fitted kinetic parameters reported in Table 3. L2: 100% N as urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea.

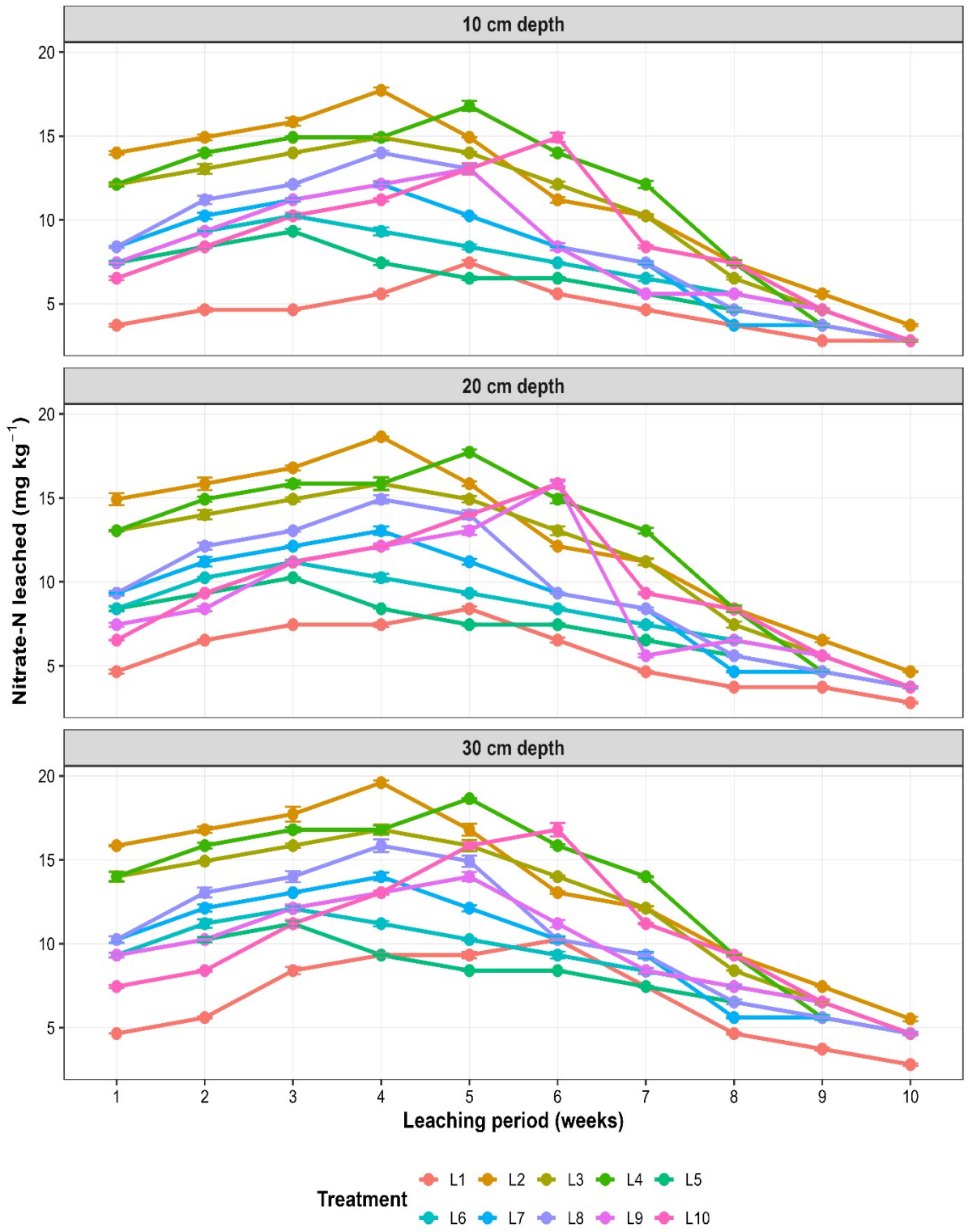

Figure S4. Temporal dynamics of nitrate (NO_3^--N) leaching at different soil depths under different nitrogen treatments.

L1: Absolute control; L2: 100% N as urea; L3: 75% N as urea; L4: 75% N as urea + 25% N as nano urea; L5: 50% N as urea; L6: 50% N as urea + 25% N as nano urea; L7: 50% N as urea + 50% N as nano urea; L8: 25% N as urea + 75% N as nano urea; L9: 75% N as nano urea; L10: 100% N as nano urea.