



Title	Differences in ionic responses to nutrient deficiencies among plant species under field conditions
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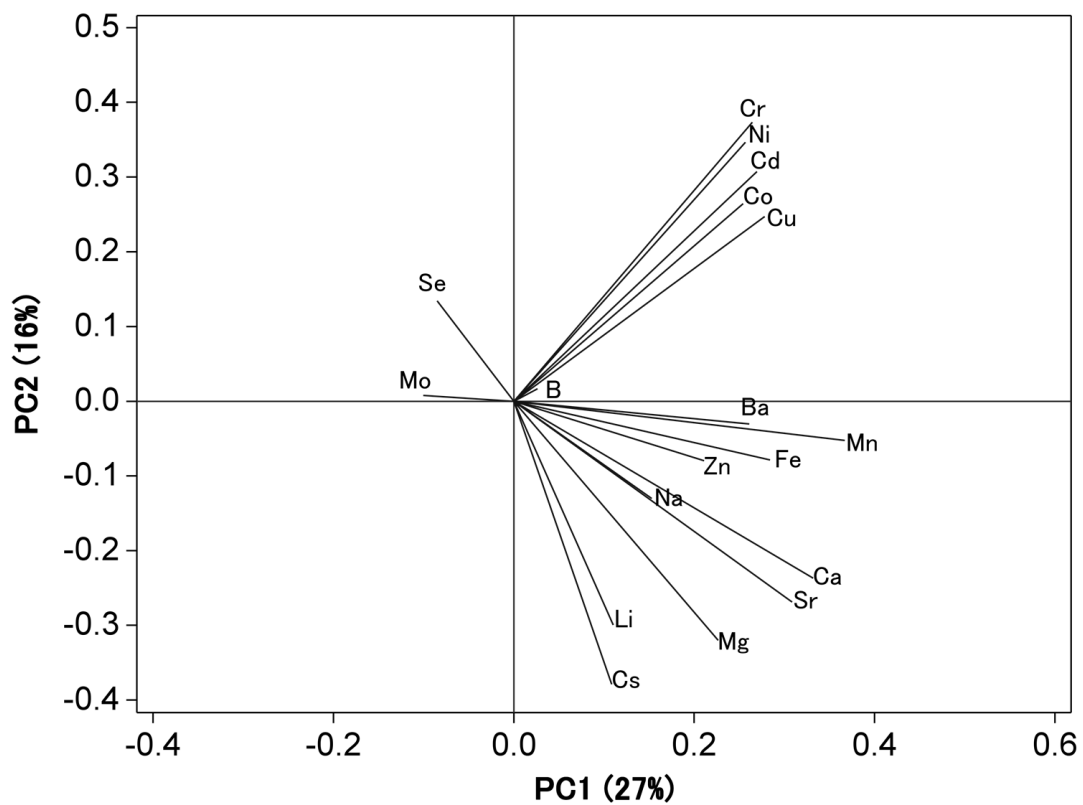


Figure S1. Loading plot for Figure 3.

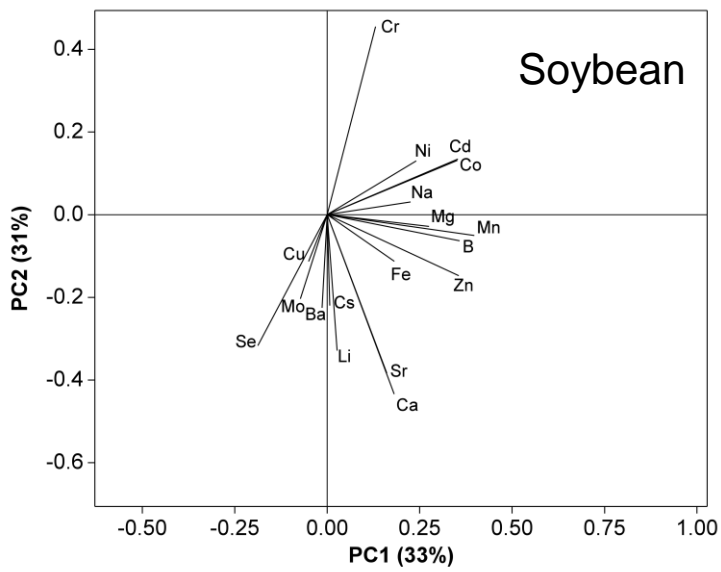
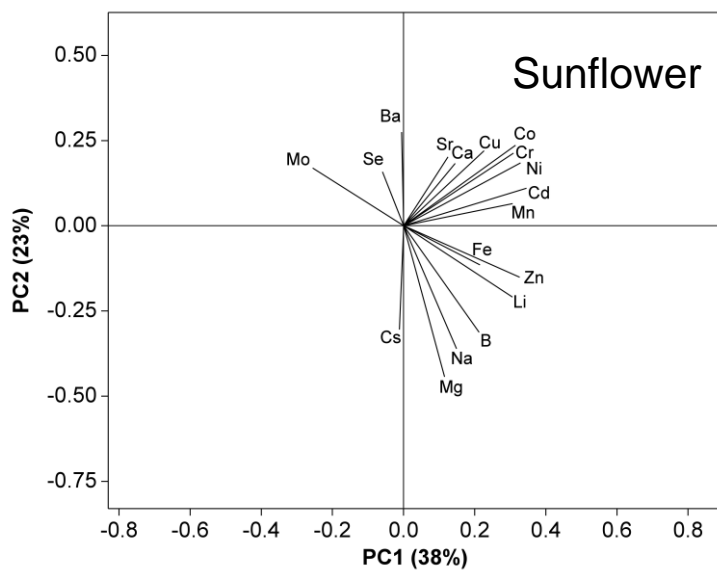
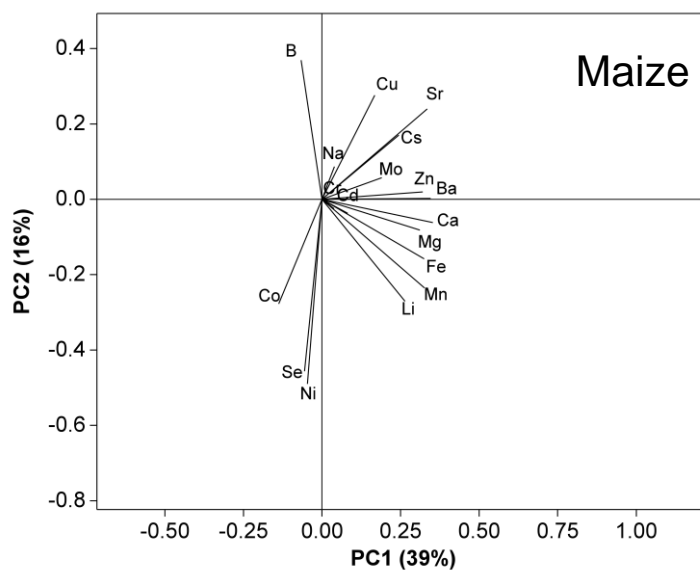
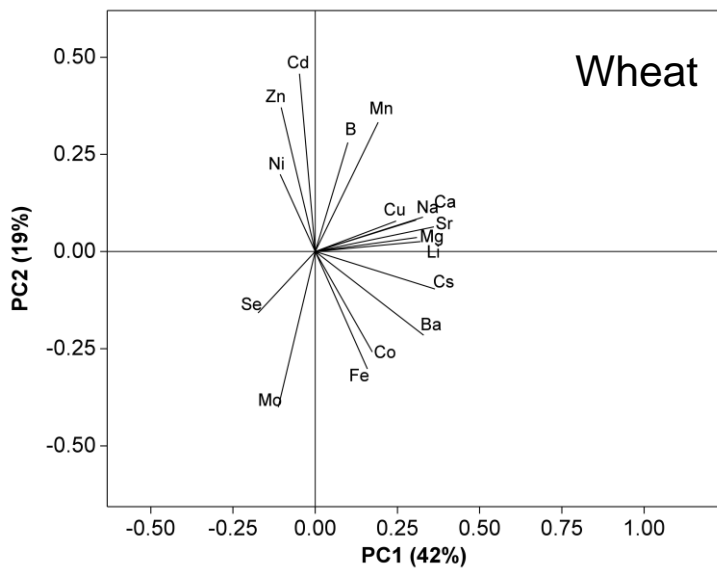


Figure S2. Loading plot for Figure 4.

Table S1. Concentration of each mineral element in leaf, seed, and root of wheat, maize, sunflower, and soybean.

		N (mg g ⁻¹)	P (mg g ⁻¹)	K (mg g ⁻¹)	Ca (mg g ⁻¹)	Mg (mg g ⁻¹)	Fe (μg g ⁻¹)	Mn (μg g ⁻¹)	Zn (μg g ⁻¹)	B (μg g ⁻¹)	Cu (μg g ⁻¹)	Mo (μg g ⁻¹)	Ni (μg g ⁻¹)	Li (μg g ⁻¹)	Na (μg g ⁻¹)	Al (μg g ⁻¹)	Cr (μg g ⁻¹)	Co (μg g ⁻¹)	As (μg g ⁻¹)	Se (μg g ⁻¹)	Sr (μg g ⁻¹)	Cd (μg g ⁻¹)	Cs (μg g ⁻¹)	Ba (μg g ⁻¹)	
Leaf	Wheat	+NPK	35.0 ±1.4	4.72 ±0.08	29.2 ±0.4	7.19 ±0.33	1.74 ±0.09	153 ±13	132 ±9	32.2 ±1.9	3.0 ±0.2	9.6 ±0.5	0.97 ±0.10	5.5 ±0.4	0.258 ±0.005	236 ±22	60.4 ±11.2	8.28 ±0.83	0.16 ±0.01	0.35 ±0.01	0.137 ±0.015	23.7 ±0.6	0.201 ±0.022	6.23 ±0.33	36.0 ±1.3
		-N	22.2 ±0.3	3.30 ±0.07	25.4 ±0.4	4.62 ±0.08	1.55 ±0.07	151 ±10	41 ±3	31.1 ±10.7	2.5 ±0.1	7.6 ±0.2	2.98 ±0.06	5.5 ±0.6	0.139 ±0.009	49 ±3	72.1 ±10.8	9.93 ±0.86	0.19 ±0.02	0.38 ±0.01	0.324 ±0.026	20.1 ±0.3	0.097 ±0.003	0.90 ±0.03	38.0 ±0.9
		-P	35.0 ±0.8	2.04 ±0.02	29.7 ±1.1	4.05 ±0.06	1.62 ±0.03	146 ±6	104 ±8	56.6 ±2.4	3.1 ±0.1	14.8 ±0.2	0.35 ±0.06	4.5 ±0.6	0.198 ±0.026	61 ±2	66.0 ±3.7	7.77 ±1.23	0.13 ±0.01	0.17 ±0.01	0.143 ±0.019	15.9 ±0.2	0.140 ±0.007	1.72 ±0.19	24.6 ±0.4
		-K	35.5 ±1.0	5.52 ±0.17	6.6 ±0.3	11.71 ±0.44	4.00 ±0.19	150 ±7	195 ±19	38.3 ±3.0	4.4 ±0.3	10.3 ±0.3	0.86 ±0.21	4.4 ±0.3	0.533 ±0.081	5148 ±288	72.7 ±7.3	6.74 ±0.42	0.13 ±0.01	0.38 ±0.01	0.111 ±0.023	43.7 ±1.7	0.230 ±0.021	25.31 ±1.21	63.1 ±0.7
	Maize	+NPK	32.7 ±0.3	4.10 ±0.10	31.6 ±1.2	6.18 ±0.27	1.82 ±0.11	133 ±6	99 ±3	36.9 ±1.4	4.6 ±0.5	11.5 ±0.1	0.29 ±0.03	2.7 ±0.1	0.050 ±0.004	120 ±3	44.9 ±5.9	3.54 ±0.27	0.11 ±0.02	0.26 ±0.02	0.042 ±0.012	16.8 ±0.5	0.137 ±0.003	4.94 ±0.05	2.1 ±0.1
		-N	13.4 ±0.1	4.50 ±0.20	30.1 ±0.7	3.67 ±0.21	1.82 ±0.12	79 ±11	31 ±2	16.6 ±0.5	2.6 ±0.2	6.0 ±0.4	0.42 ±0.00	2.2 ±0.3	0.015 ±0.001	145 ±3	38.4 ±8.9	3.57 ±0.50	0.08 ±0.03	0.20 ±0.03	0.095 ±0.012	13.9 ±0.5	0.057 ±0.004	0.46 ±0.03	2.5 ±0.1
		-P	30.9 ±0.3	2.12 ±0.05	31.8 ±0.8	3.31 ±0.16	1.62 ±0.05	109 ±5	67 ±8	34.8 ±4.0	2.5 ±0.0	12.4 ±0.1	0.29 ±0.15	2.1 ±0.1	0.074 ±0.029	99 ±4	35.3 ±8.1	2.49 ±0.19	0.05 ±0.00	0.05 ±0.01	0.026 ±0.012	10.9 ±0.5	0.085 ±0.007	1.44 ±0.16	2.4 ±0.1
		-K	34.2 ±0.9	6.79 ±0.47	9.2 ±0.2	9.84 ±0.39	1.62 ±0.05	154 ±9	196 ±21	62.6 ±4.8	4.0 ±0.2	11.1 ±0.5	0.52 ±0.05	2.8 ±0.3	0.142 ±0.030	130 ±6	60.3 ±10.4	3.52 ±0.46	0.09 ±0.01	0.36 ±0.01	0.068 ±0.013	31.1 ±0.7	0.197 ±0.009	28.33 ±0.53	4.7 ±0.1
	Sunflower	+NPK	46.5 ±0.8	3.76 ±0.07	32.8 ±1.3	31.02 ±0.67	7.97 ±0.09	157 ±17	298 ±61	69.3 ±7.4	34.5 ±3.0	8.0 ±0.4	0.14 ±0.02	3.5 ±0.2	0.490 ±0.095	55 ±1	65.8 ±4.0	2.79 ±0.11	0.44 ±0.09	0.24 ±0.02	0.167 ±0.027	71.6 ±3.8	0.617 ±0.049	3.77 ±0.38	10.2 ±0.6
		-N	29.9 ±1.2	5.24 ±0.34	40.4 ±1.1	27.83 ±0.39	3.74 ±0.07	162 ±9	55 ±2	43.3 ±2.9	53.8 ±1.2	12.9 ±0.9	0.43 ±0.01	3.5 ±0.2	0.229 ±0.020	34 ±1	83.2 ±9.7	3.99 ±0.31	0.24 ±0.02	0.31 ±0.01	0.215 ±0.043	90.0 ±1.7	0.557 ±0.044	0.31 ±0.04	29.1 ±0.8
		-P	45.6 ±0.3	2.16 ±0.04	41.9 ±0.2	24.10 ±0.44	3.94 ±0.08	219 ±14	262 ±6	111.8 ±5.5	30.9 ±1.4	25.5 ±0.4	0.06 ±0.01	5.2 ±0.3	0.384 ±0.020	51 ±2	146.7 ±21.9	3.85 ±0.62	0.91 ±0.02	0.30 ±0.03	0.085 ±0.009	64.4 ±2.5	0.750 ±0.020	0.81 ±0.16	29.4 ±1.1
		-K	47.2 ±0.9	4.94 ±0.16	10.4 ±0.5	37.81 ±2.11	12.20 ±0.68	201 ±7	525 ±31	102.2 ±1.2	49.1 ±4.3	7.6 ±0.3	0.05 ±0.00	5.3 ±0.2	0.785 ±0.104	1682 ±54	123.8 ±10.6	4.16 ±0.41	0.61 ±0.01	0.34 ±0.02	0.214 ±0.033	93.9 ±5.3	1.103 ±0.037	10.90 ±0.06	14.0 ±1.9
Soybean	+NPK	46.9 ±0.5	3.21 ±0.06	17.8 ±0.3	19.14 ±1.43	4.08 ±0.22	147 ±2	212 ±16	116.1 ±3.9	34.2 ±0.0	6.8 ±0.3	0.15 ±0.03	4.0 ±0.1	0.054 ±0.007	55 ±6	61.6 ±4.8	2.52 ±0.20	0.15 ±0.01	0.15 ±0.01	0.074 ±0.010	36.9 ±2.8	0.245 ±0.008	2.59 ±0.08	5.0 ±0.4	
	-N	40.6 ±0.8	2.82 ±0.05	22.7 ±0.4	12.20 ±0.38	1.93 ±0.08	124 ±4	70 ±2	62.7 ±3.2	31.8 ±0.4	5.1 ±0.2	0.03 ±0.02	2.4 ±0.1	0.034 ±0.011	68 ±7	32.6 ±6.8	2.32 ±0.27	0.13 ±0.01	0.16 ±0.01	0.119 ±0.005	31.2 ±0.6	0.118 ±0.003	0.75 ±0.04	7.1 ±0.1	
	-P	41.3 ±1.2	1.16 ±0.04	20.1 ±0.5	11.92 ±0.20	2.54 ±0.06	108 ±5	132 ±10	91.9 ±3.2	25.4 ±0.5	11.1 ±0.1	0.01 ±0.01	3.5 ±0.2	0.157 ±0.009	62 ±3	62.6 ±5.5	2.03 ±0.11	0.16 ±0.01	0.06 ±0.01	0.058 ±0.004	27.3 ±0.4	0.107 ±0.005	0.82 ±0.16	5.6 ±0.3	
	-K	42.5 ±0.7	3.48 ±0.05	7.1 ±0.2	24.70 ±1.01	8.53 ±0.15	167 ±16	394 ±7	137.2 ±1.2	41.8 ±0.7	2.1 ±0.0	0.21 ±0.02	4.2 ±0.5	0.092 ±0.020	68 ±5	78.6 ±0.6	3.00 ±0.52	0.23 ±0.01	0.19 ±0.02	0.037 ±0.015	57.7 ±2.6	0.343 ±0.011	8.42 ±1.9	6.6 ±0.5	
Seed	Wheat	+NPK	21.9 ±2.0	5.09 ±0.19	4.6 ±0.2	0.62 ±0.03	1.85 ±0.06	51 ±3	57 ±2	45.3 ±1.2	2.8 ±0.5	6.1 ±0.1	0.77 ±0.13	0.8 ±0.0	0.028 ±0.004	24 ±0	0.4 ±0.1	0.97 ±0.25	0.00 ±0.00	UD	0.056 ±0.006	2.8 ±0.0	0.138 ±0.003	1.46 ±0.08	2.0 ±0.1
		-N	22.9 ±1.4	5.22 ±0.11	4.8 ±0.0	0.47 ±0.01	2.23 ±0.06	53 ±4	45 ±0	49.8 ±0.8	1.4 ±0.2	7.4 ±0.1	0.79 ±0.03	0.7 ±0.1	0.013 ±0.001	24 ±1	0.2 ±0.0	0.99 ±0.05	0.01 ±0.00	UD	0.190 ±0.027	2.0 ±0.0	0.103 ±0.003	0.14 ±0.01	1.7 ±0.1
		-P	27.2 ±2.2	4.83 ±0.04	4.6 ±0.1	0.62 ±0.04	2.24 ±0.03	60 ±2	67 ±3	81.1 ±1.5	1.1 ±0.0	11.9 ±0.4	0.27 ±0.00	0.7 ±0.0	0.013 ±0.001	22 ±3	1.6 ±0.9	1.06 ±0.15	0.00 ±0.00	UD	0.077 ±0.007	2.2 ±0.2	0.106 ±0.004	0.39 ±0.02	1.7 ±0.1
		-K	28.5 ±1.0	5.05 ±0.03	4.6 ±0.0	0.82 ±0.02	1.96 ±0.03	67 ±5	50 ±2	45.0 ±1.2	1.6 ±0.5	6.7 ±0.2	0.83 ±0.16	0.8 ±0.0	0.029 ±0.008	32 ±1	2.7 ±0.4	1.01 ±0.10	0.02 ±0.00	UD	0.063 ±0.017	4.0 ±0.3	0.112 ±0.007	5.32 ±1.9	3.8 ±0.2
	Maize	+NPK	27.9 ±1.3	5.31 ±0.07	9.5 ±0.0	0.24 ±0.05	2.16 ±0.05	42 ±8	25 ±0	44.7 ±1.7	3.5 ±0.1	4.7 ±0.4	0.23 ±0.01	0.7 ±0.1	0.003 ±0.000	3 ±1	0.7 ±0.2	1.45 ±0.13	0.01 ±0.00	UD	0.041 ±0.002	0.4 ±0.0	0.012 ±0.000	0.80 ±0.07	0.1 ±0.0
		-N	24.9 ±0.8	5.56 ±0.09	8.7 ±0.3	0.17 ±0.01	2.39 ±0.05	28 ±0	19 ±1	48.1 ±1.2	4.1 ±0.6	4.8 ±0.1	0.55 ±0.18	0.7 ±0.0	0.008 ±0.005	4 ±0	1.0 ±0.3	1.25 ±0.12	0.01 ±0.01	UD	0.184 ±0.021	0.3 ±0.0	0.013 ±0.003	0.19 ±0.02	0.1 ±0.0
		-P	26.5 ±0.9	4.70 ±0.12	8.4 ±0.1	0.17 ±0.02	2.04 ±0.01	30 ±1	20 ±1	42.4 ±0.4	3.4 ±0.2	5.9 ±0.2	0.31 ±0.03	0.5 ±0.0	0.002 ±0.000	3 ±2	UD	1.22 ±0.07	0.00 ±0.00	UD	0.053 ±0.005	0.3 ±0.0	0.011 ±0.001	0.47 ±0.06	0.1 ±0.0
		-K	27.4 ±0.4	5.03 ±0.07	7.8 ±0.1	0.29 ±0.03	2.11 ±0.08	38 ±1	22 ±0	41.6 ±1.3	3.2 ±0.1	4.6 ±0.3	0.39 ±0.03	0.6 ±0.0	0.003 ±0.001	5 ±2	1.1 ±0.5	1.23 ±0.27	0.00 ±0.00	UD	0.058 ±0.005	0.7 ±0.0	0.009 ±0.000	11.60 ±0.79	0.1 ±0.0
	Sunflower	+NPK	33.6 ±1.6	8.12 ±0.28	6.2 ±0.1	4.69 ±0.05	3.67 ±0.06	101 ±6	113 ±9	92.0 ±4.3	19.9 ±1.6	28.3 ±2.0	0.37 ±0.17	8.0 ±0.6	0.016 ±0.009	6 ±2	1.8 ±0.8	5.54 ±0.14	0.28 ±0.04	0.06 ±0.02	0.047 ±0.013	6.7 ±0.5	0.334 ±0.010	0.32 ±0.05	0.9 ±0.1
		-N	34.4 ±1.7	7.46 ±0.28	6.7 ±0.3	4.20 ±0.33	3.25 ±0.12	73 ±9	23 ±1	68.2 ±2.1	17.9 ±0.9	30.7 ±1.6	0.25 ±0.01	4.8 ±0.7	0.004 ±0.000	6 ±1	2.4 ±0.7	5.55 ±1.32	0.11 ±0.02	0.02 ±0.01	0.138 ±0.007	9.4 ±0.9	0.279 ±0.006	0.13 ±0.01	1.7 ±0.2
		-P	37.5 ±2.1	7.58 ±0.28	6.6 ±0.3	4.82 ±0.15	3.39 ±0.02	95 ±4	79 ±1	81.1 ±1.0	19.8 ±0.6	32.3 ±0.7	0.12 ±0.02	5.6 ±0.6	0.005 ±0.001	7 ±0	1.3 ±0.6	7.14 ±1.00	0.39 ±0.01	0.04 ±0.02	0.037 ±0.009	10.6 ±0.1	0.251 ±0.007	0.17 ±0.02	3.0 ±0.1
		-K	45.4 ±1.2	9.20 ±0.16	7.1 ±0.4	4.39 ±0.12	4.44 ±0.08	97 ±12	88 ±17	117.4 ±3.0	19.1 ±0.9	27.9 ±2.1	0.35 ±0.19	10.1 ±1.5	0.018 ±0.011	24 ±11	2.1 ±0.4	4.35 ±1.78	0.38 ±0.07	0.11 ±0.03	0.056 ±0.021	9.6 ±0.6	0.504 ±0.028	3.14 ±0.64	1.5 ±0.1
Soybean	+NPK	59.4 ±2.1	5.80 ±0.05	21.9 ±0.3	2.34 ±0.07	2.72 ±0.04	80 ±3	46 ±2	53.7 ±2.2	30.8 ±1.9	8.1 ±0.3	1.37 ±0.04	5.2 ±0.1	0.000 ±0.000	7 ±2	UD	1.91 ±0.02	0.11 ±0.00	0.05 ±0.03	0.046 ±0.007	3.2 ±0.2	0.095 ±0.004	2.36 ±0.03	1.1 ±0.1	
	-N	61.8 ±0.9	5.85 ±0.10	22.0 ±0.1	2.45 ±0.08	2.44 ±0.06	81 ±2	25 ±1	44.5 ±0.6	23.7 ±1.1	6.4 ±0.5	1.95 ±0.17	2.4 ±0.0	0.009 ±0.007	8 ±1	UD	1.75 ±0.08	0.10 ±0.01	0.10 ±0.01	0.096 ±0.012	4.6 ±0.2	0.064 ±0.005	0.54 ±0.05	2.1 ±0.1	
	-P	60.7 ±1.5	3.88 ±0.17	20.1 ±0.3	2.55 ±0.10	1.23 ±0.01	82 ±2	35 ±1	48.9 ±0.8	24.3 ±1.3	16.2 ±0.2	1.15 ±0.05	2.8 ±0.0	0.002 ±0.000	8 ±0	0.3 ±0.1	1.50 ±0.07	0.11 ±0.01	0.04 ±0.03	0.071 ±0.007	5.3 ±0.1	0.023 ±0.001	2.34 ±0.10	1.6 ±0.1	
	-K	65.6 ±0.9	5.90 ±0.21	16.5 ±0.8	2.81 ±0.05	1.81 ±0.03	84 ±6	45 ±1	61.1 ±2.1	32.6 ±1.3	5.6 ±0.1	2.15 ±0.10	6.3 ±0.3	0.002 ±0.000	13 ±1	0.2 ±0.1	1.53 ±0.11	0.09 ±0.00	0.02 ±0.01	0.044 ±0.010	4.0 ±0.0	0.075 ±0.001	30.12 ±1.30	1.1 ±0.1	
Root	Wheat	+NPK	ND	1.62 ±0.04	7.0 ±0.3	2.60 ±0.16	0.81 ±0.04	1824 ±126	185 ±11	81.8 ±28.1	3.9 ±0.6	25.0 ±3.6	0.86 ±0.08	36.7 ±3.3	1.290 ±0.081	1267 ±172	2029 ±117	41.34 ±4.25	2.40 ±0.08	3.39 ±0.18	0.230 ±0.014	10.0 ±0.5	1.455 ±0.013	4.38 ±0.50	16.5 ±3.5
		-N	ND	1.46 ±0.10	7.3 ±0.5	2.25 ±0.09	0.75 ±0.01	1667 ±47	86 ±0	51.5 ±7.2	2.4 ±0.2	19.6 ±0.3	1.01 ±0.04	37.5 ±2.1	1.175 ±0.045	298 ±9	1618 ±52	48.51 ±3.79	1.64 ±0.07	3.34 ±0.13	0.212 ±0.031	9.5 ±0.3	1.196 ±0.071	0.81 ±0.02	8.9 ±0.5
		-P	ND	0.72 ±0.02	8.0 ±0.3	2.09 ±0.01	0.70 ±0.02	1395 ±112	222 ±17	81.1 ±15.1	2.0 ±0.1	36.0 ±1.3	0.75 ±0.23	41.0 ±9.7	1.087 ±0.071	646 ±52	1507 ±72	61.83 ±22.31	2.98 ±0.15	2.44 ±0.10	0.178 ±				

Table S2. Extractable concentration of each mineral and total nitrogen concentration in bulk soils of each plant species (between the rows of each plant species, 0–25 cm)

		N ($\mu\text{g g}^{-1}$)	P ($\mu\text{g g}^{-1}$)	K ($\mu\text{g g}^{-1}$)	Ca ($\mu\text{g g}^{-1}$)	Mg ($\mu\text{g g}^{-1}$)	Fe ($\mu\text{g g}^{-1}$)	Mn ($\mu\text{g g}^{-1}$)	Zn ($\mu\text{g g}^{-1}$)	B ($\mu\text{g g}^{-1}$)	Cu ($\mu\text{g g}^{-1}$)	Mo ($\mu\text{g g}^{-1}$)	Ni ($\mu\text{g g}^{-1}$)	Li ($\mu\text{g g}^{-1}$)	Na ($\mu\text{g g}^{-1}$)	Al ($\mu\text{g g}^{-1}$)	Cr ($\mu\text{g g}^{-1}$)	Co ($\mu\text{g g}^{-1}$)	As ($\mu\text{g g}^{-1}$)	Se ($\mu\text{g g}^{-1}$)	Sr ($\mu\text{g g}^{-1}$)	Cd ($\mu\text{g g}^{-1}$)	Cs ($\mu\text{g g}^{-1}$)	Ba ($\mu\text{g g}^{-1}$)
Wheat	+NPK	1840 ±82	1.81 ±0.09	74.9 ±4.4	3853 ±180	201 ±11	11.4 ±0.6	23.4 ±1.4	9.09 ±0.20	0.270 ±0.015	0.799 ±0.031	0.163 ±0.002	1.048 ±0.009	0.0589 ±0.0096	43.9 ±2.4	894 ±46	2.18 ±0.20	1.15 ±0.07	3.61 ±0.06	1.96 ±0.14	17.0 ±0.9	0.363 ±0.006	3.31 ±0.11	31.0 ±4.3
	-N	1461 ±118	3.64 ±0.39	266.5 ±7.0	4121 ±126	210 ±7	10.3 ±0.3	22.5 ±1.6	10.52 ±1.70	0.326 ±0.013	0.687 ±0.062	0.142 ±0.009	0.773 ±0.039	0.0606 ±0.0037	34.8 ±2.5	782 ±39	3.11 ±0.23	1.45 ±0.11	3.16 ±0.07	2.32 ±0.15	25.7 ±0.6	0.320 ±0.025	2.69 ±0.12	43.0 ±1.5
	-P	1930 ±47	0.06 ±0.03	173.3 ±13.6	3129 ±65	214 ±9	12.1 ±0.7	25.7 ±2.7	9.23 ±0.73	0.174 ±0.008	0.847 ±0.028	0.106 ±0.015	0.684 ±0.079	0.0733 ±0.0060	29.8 ±1.8	623 ±29	2.08 ±0.36	1.44 ±0.11	2.51 ±0.10	1.47 ±0.13	18.0 ±1.6	0.229 ±0.014	3.29 ±0.14	39.5 ±2.7
	-K	2270 ±120	2.07 ±0.12	29.1 ±0.4	4162 ±157	164 ±6	10.7 ±1.5	25.0 ±0.8	10.50 ±0.42	0.306 ±0.020	0.441 ±0.021	0.168 ±0.005	1.024 ±0.028	0.0402 ±0.0005	40.9 ±1.3	1044 ±40	2.16 ±0.04	1.26 ±0.03	4.24 ±0.07	2.38 ±0.14	20.9 ±0.5	0.430 ±0.009	4.73 ±0.07	38.9 ±0.7
Maize	+NPK	1885 ±8	2.44 ±0.09	71.7 ±2.4	3661 ±15	202 ±10	15.2 ±0.2	23.4 ±1.0	7.00 ±0.47	0.238 ±0.005	0.897 ±0.034	0.135 ±0.005	1.068 ±0.033	0.0501 ±0.0047	47.1 ±1.5	941 ±17	1.82 ±0.10	1.44 ±0.19	3.16 ±0.09	3.25 ±0.28	18.5 ±0.3	0.376 ±0.018	2.95 ±0.06	34.0 ±1.8
	-N	1729 ±63	3.21 ±0.14	291.8 ±10.1	3819 ±113	215 ±5	14.5 ±1.2	17.9 ±0.5	8.17 ±1.30	0.281 ±0.024	0.794 ±0.079	0.121 ±0.004	0.731 ±0.062	0.0749 ±0.0019	44.6 ±5.2	712 ±36	1.28 ±0.10	1.10 ±0.20	2.58 ±0.10	2.65 ±0.11	26.4 ±1.2	0.315 ±0.024	1.89 ±0.31	42.2 ±0.7
	-P	1666 ±43	0.02 ±0.02	208.6 ±20.7	3145 ±111	229 ±10	17.0 ±1.9	23.4 ±1.3	4.95 ±0.50	0.169 ±0.024	0.830 ±0.033	0.095 ±0.008	0.652 ±0.018	0.0598 ±0.0037	40.9 ±4.5	607 ±2	0.74 ±0.03	1.34 ±0.11	1.76 ±0.03	1.91 ±0.29	18.0 ±0.3	0.212 ±0.010	2.51 ±0.21	36.1 ±0.6
	-K	2418 ±117	2.48 ±0.16	24.9 ±1.3	3846 ±26	154 ±6	13.8 ±0.5	26.0 ±2.6	7.31 ±0.94	0.215 ±0.021	0.603 ±0.064	0.156 ±0.007	1.014 ±0.065	0.0606 ±0.0171	53.7 ±1.3	1088 ±71	1.42 ±0.19	2.01 ±0.20	3.69 ±0.25	3.34 ±0.19	20.9 ±0.3	0.411 ±0.029	5.84 ±0.22	31.7 ±5.3
Sunflower	+NPK	1946 ±48	2.42 ±0.12	92.1 ±9.1	3860 ±29	205 ±8	14.2 ±0.3	21.6 ±1.9	8.17 ±0.40	0.224 ±0.009	0.754 ±0.024	0.145 ±0.009	0.925 ±0.042	0.0658 ±0.0071	54.3 ±4.1	894 ±41	1.57 ±0.16	3.05 ±0.13	3.58 ±0.14	2.73 ±0.27	18.3 ±0.3	0.311 ±0.016	1.82 ±0.43	36.0 ±1.7
	-N	1747 ±47	4.32 ±0.15	319.5 ±16.3	4146 ±58	240 ±3	13.4 ±0.3	16.7 ±0.3	10.45 ±0.42	0.280 ±0.002	0.673 ±0.009	0.117 ±0.007	0.711 ±0.018	0.0820 ±0.0068	39.1 ±2.4	734 ±5	1.23 ±0.10	4.57 ±0.75	2.93 ±0.09	2.42 ±0.02	27.3 ±0.2	0.280 ±0.006	0.91 ±0.15	44.7 ±0.1
	-P	1953 ±47	0.70 ±0.01	205.4 ±8.5	3533 ±68	250 ±5	13.1 ±1.1	21.5 ±1.6	10.10 ±0.55	0.228 ±0.007	0.628 ±0.038	0.112 ±0.002	0.699 ±0.027	0.0401 ±0.0127	41.0 ±2.9	694 ±15	0.89 ±0.12	2.34 ±0.33	2.38 ±0.10	1.63 ±0.22	19.3 ±0.2	0.222 ±0.007	2.40 ±0.09	41.0 ±1.9
	-K	2184 ±59	2.32 ±0.21	28.8 ±1.4	4224 ±121	174 ±8	12.4 ±0.9	25.0 ±1.7	9.47 ±0.39	0.214 ±0.007	0.468 ±0.029	0.144 ±0.005	0.911 ±0.010	0.0555 ±0.0114	55.2 ±2.2	1016 ±18	0.95 ±0.12	3.62 ±0.27	3.86 ±0.04	2.53 ±0.22	21.3 ±0.6	0.362 ±0.002	3.58 ±0.23	33.6 ±3.9
Soybean	+NPK	1877 ±39	0.98 ±0.14	97.9 ±6.0	3847 ±50	188 ±5	15.9 ±1.9	23.3 ±3.8	8.66 ±1.35	0.157 ±0.005	0.893 ±0.071	0.130 ±0.003	0.854 ±0.043	0.0612 ±0.0043	36.7 ±1.4	781 ±48	1.35 ±0.07	1.63 ±0.27	3.04 ±0.13	2.65 ±0.35	16.8 ±0.4	0.311 ±0.012	2.53 ±0.28	29.2 ±1.8
	-N	1621 ±65	3.46 ±0.40	281.4 ±24.9	4144 ±56	209 ±3	12.9 ±0.7	18.8 ±1.7	10.88 ±0.57	0.228 ±0.003	0.756 ±0.136	0.118 ±0.005	0.735 ±0.008	0.0686 ±0.0060	35.6 ±4.3	770 ±59	1.65 ±0.14	1.95 ±0.35	3.01 ±0.15	3.00 ±0.13	26.1 ±0.7	0.314 ±0.010	0.66 ±0.07	41.2 ±1.7
	-P	1954 ±34	0.08 ±0.04	223.4 ±20.5	3396 ±121	232 ±11	17.6 ±1.7	28.6 ±2.2	8.32 ±0.19	0.128 ±0.007	0.861 ±0.032	0.098 ±0.001	0.610 ±0.019	0.0501 ±0.0094	26.7 ±1.7	602 ±21	1.30 ±0.02	2.97 ±0.51	2.07 ±0.11	1.90 ±0.24	16.7 ±0.6	0.205 ±0.002	2.68 ±0.15	34.7 ±0.6
	-K	2264 ±56	1.72 ±0.10	32.7 ±1.1	4066 ±178	156 ±10	13.4 ±1.3	28.4 ±2.3	9.79 ±0.21	0.152 ±0.011	0.531 ±0.022	0.147 ±0.002	0.851 ±0.052	0.0394 ±0.0054	42.7 ±0.9	938 ±55	1.44 ±0.26	2.59 ±0.44	3.69 ±0.21	2.53 ±0.12	19.0 ±0.8	0.366 ±0.020	4.57 ±0.40	27.9 ±3.1

Values are means of three replicates ±standard errors.

Total: N, Water extractable: P, Cr, Co, Se, Cs, 0.1 M HCl extractable: K, Ca, Mg, Fe, Mn, Zn, B, Cu, Mo, Ni, Li, Na, Al, As, Sr, Cd, Ba.