Table S1: The composition of Hoagland´s nutrient solution used for five potassium (K) treatments. The quantity of the chemicals required to prepare 1000 L Hoagland´s solution is in grams.

Nutrients	0% K	5% K	20% K	40% K	100% K
Macronutrients					
$KH_{2(}PO_4)_2$*H2O (g)	0.00	0.00	74.07	74.07	75.83
$Ca(H_2PO_4)$*$_2H_2O$ (g)	68.52	68.52	0.00	0.00	
$MgSO_4$ * $7H_2O$ (g)	268.52	268.52	268.52	268.52	274.17
$Ca(NO_3)_2$ * $4H_2O$ (g)	781.48	781.48	846.30	846.30	709.40
NH_4NO_3 (g)	131.48	131.48	109.26	109.26	
KCl (g)	0.00	22.22	50.00	137.04	
KNO_3 (g)					281.67
Micronutrients					
FeNa ; EDTA (g)	27.44	27.44	27.44	27.44	30.50
NaCl (g)	8.85	8.85	8.85	8.85	9.83
$MnCl_2$ * $4H_2O$ (g)	2.96	2.96	2.96	2.96	3.30
H_3BO_3 (g)	2.78	2.78	2.78	2.78	3.08
$CuSO_4$ * $5H_2O$ (g)	0.39	0.39	0.39	0.39	0.42
$ZnSO_4$ * $7H_2O$ (g)	0.43	0.43	0.43	0.43	0.48
$(NH_4)_6MO_7O_{24}$ * $4H_2O$ (g)	0.13	0.13	0.13	0.13	0.15

Table S2: Leaf mineral nutrient constitution influenced by the K treatments at different growth stages in corn. The treatments were after the first leaf stage, and five K treatments were imposed in each sunlit plant growth chamber by modifying the K concentration in Hoagland's solution up to the tasseling stage.

Growth stage	Treatment	N (%)	P (%)	K (%)	Ca (%)	Mg (%)	S (%)	Zn (%)	B (ppm)	Fe (ppm)	Mn (ppm)	Cu (ppm)
Growth stage-1 (V4)	0% K	4.84 ± 0.21	0.43 ± 0.06	2.49 ± 0.13	0.95 ± 0.03	0.32 ± 0.02	0.21 ± 0	37.72 ± 6.54	23.44 ± 3.43	95.52 ± 9.82	71.36 ± 3.86	10.63 ± 0.64
	5% K	4.44 ± 0.22	0.31 ± 0.02	3.2 ± 0.21	0.77 ± 0.05	0.19 ± 0.02	0.19 ± 0.01	28.69 ± 3.02	22.14 ± 1.17	87.6 ± 4.12	54.08 ± 3.89	8.51 ± 0.5
	20% K	4.89 ± 0.15	0.44 ± 0.02	4.04 ± 0.2	0.7 ± 0.03	0.16 ± 0.01	0.18 ± 0.01	26.5 ± 0.7	21.62 ± 2.02	73.3 ± 2.92	56.83 ± 0.97	9.15 ± 0.21
	40% K	4.62 ± 0.04	0.37 ± 0.01	3.99 ± 0.16	0.67 ± 0.02	0.13 ± 0	0.18 ± 0.01	26.35 ± 3.93	19.59 ± 1.34	70.56 ± 0.25	55.88 ± 2.38	8.36 ± 0.11
	Control	4.51 ± 0.14	0.45 ± 0.02	4.73 ± 0.14	0.62 ± 0.04	0.13 ± 0.01	0.17 ± 0	23.48 ± 0.47	21 ± 1.32	68.96 ± 3.16	55.96 ± 3.73	6.59 ± 0.25
Growth stage -2 (V6)	0% K	3.88 ± 0.1	0.28 ± 0.02	1.13 ± 0.12	0.81 ± 0.03	0.39 ± 0.02	0.17 ± 0.01	35.44 ± 4.82	24.38 ± 1.57	67.55 ± 2.25	76.27 ± 3.37	10.36 ± 0.36
	5% K	3.82 ± 0.4	0.29 ± 0.05	2.25 ± 0.47	0.68 ± 0.04	0.26 ± 0.05	0.16 ± 0.01	27.6 ± 5.25	20.78 ± 1.64	68.71 ± 4.81	69.31 ± 5.56	8.54 ± 1.07
	20% K	4.01 ± 0.03	0.33 ± 0.01	2.32 ± 0.16	0.83 ± 0.06	0.31 ± 0.04	0.18 ± 0.01	23.77 ± 2.25	21.45 ± 0.84	70.99 ± 2.84	84.38 ± 5.44	10.19 ± 0.7
	40% K	3.87 ± 0.04	0.26 ± 0.02	2.83 ± 0.18	0.59 ± 0.04	0.16 ± 0.01	0.16 ± 0	23.17 ± 0.78	18.94 ± 0.24	70.36 ± 3.29	66.59 ± 2.63	8.86 ± 0.07
	Control	3.96 ± 0.12	0.45 ± 0.01	3.94 ± 0.07	0.49 ± 0.01	0.11 ± 0	0.16 ± 0.01	21.76 ± 1.45	22.39 ± 1.7	65.24 ± 2.39	55.4 ± 3.16	7.13 ± 0.43
Growth stage -3 (V10)	0% K	3.25 ± 0.08	0.26 ± 0.02	0.68 ± 0.08	0.75 ± 0.14	0.44 ± 0.06	0.15 ± 0.01	33.68 ± 1.82	43.58 ± 1.85	66.9 ± 3.19	97.64 ± 3.55	8.99 ± 0.21
	5% K	3.18 ± 0.1	0.25 ± 0.01	1.24 ± 0.03	0.66 ± 0.05	0.33 ± 0.03	0.14 ± 0	23.92 ± 3.58	41.54 ± 0.95	68.73 ± 2.68	81.68 ± 9.28	8.68 ± 0.46
	20% K	3.38 ± 0.15	0.29 ± 0.03	1.58 ± 0.21	0.64 ± 0.05	0.29 ± 0.02	0.16 ± 0	22.98 ± 1.54	35.94 ± 4.61	76.8 ± 5.09	98.8 ± 11.12	9.53 ± 0.67
	40% K	3.08 ± 0.05	0.23 ± 0.02	2.18 ± 0.05	0.51 ± 0.06	0.2 ± 0.01	0.14 ± 0	22.61 ± 1.19	32.44 ± 4.13	69.4 ± 2.64	79.89 ± 6.09	7.77 ± 0.06
	Control	3.36 ± 0.07	0.33 ± 0.01	2.9 ± 0.29	0.59 ± 0.09	0.15 ± 0.01	0.15 ± 0	15.11 ± 0.62	30.29 ± 5.96	64.25 ± 1.73	59.24 ± 2.85	5.82 ± 0.19
Growth stage -4 (VT)	0% K	2.71 ± 0.01	0.2 ± 0.01	0.35 ± 0.02	1.08 ± 0.04	0.64 ± 0.03	0.19 ± 0.01	120.28 ± 4.94	84.99 ± 3.72	65.66 ± 3.38	130.67 ± 5.43	3.28 ± 0.41
	5% K	2.74 ± 0.02	0.18 ± 0.01	0.67 ± 0.03	0.97 ± 0.03	0.45 ± 0.01	0.16 ± 0	122.84 ± 5.23	82.65 ± 3.46	76.48 ± 6.12	101.57 ± 2.94	2.15 ± 0.24
	20% K	2.81 ± 0.05	0.19 ± 0.01	1.34 ± 0.1	0.77 ± 0.06	0.3 ± 0.02	0.17 ± 0.01	124.18 ± 8.14	70.38 ± 6.06	89.08 ± 7.84	98.15 ± 7	6.36 ± 2.83
	40% K	2.54 ± 0.07	0.13 ± 0.01	1.62 ± 0.08	0.77 ± 0.03	0.25 ± 0.01	0.18 ± 0.01	109.12 ± 7.02	86.09 ± 5.21	77.53 ± 4.93	83.56 ± 3.84	2.99 ± 0.65
	Control	2.94 ± 0.04	0.31 ± 0.01	2.4 ± 0.06	0.74 ± 0.03	0.2 ± 0.01	0.25 ± 0.01	125.2 ± 5.03	98.87 ± 3.09	75.63 ± 2.52	69.66 ± 1.91	1.6 ± 0.09
LSD*	**Growth stage**	0.17	0.03	0.22	0.07	0.03	0.008	9.25	4.11	5.56	6.47	0.99
	K	0.19	0.03	0.25	0.07	0.03	0.009	10.32	4.59	6.22	7.23	1.11

- LSD indicates the least significant difference