

**Supplementary Table S1. Composition of nutrient solutions used in hydroponic experiments**

**Table S1a. Composition of the modified Hoagland solution with normal nitrate supply (NN, 10 mM KNO<sub>3</sub>)**

Component	Concentration
MgSO <sub>4</sub> ·7H <sub>2</sub> O	1 mM
CaCl <sub>2</sub>	4 mM
KNO <sub>3</sub>	10 mM
Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> ·H <sub>2</sub> O	0.5 mM
Micronutrients (premix)	74.93 mg L <sup>-1</sup>

**Note:** The pH of the nutrient solution was adjusted to 5.8–6.0 using KOH. Micronutrients were supplied as a commercial premix (Coolaber, DZPM0059-500G) at 74.93 mg L<sup>-1</sup>, providing (mg L<sup>-1</sup>, final concentrations) FeNaEDTA 36.7, H<sub>3</sub>BO<sub>3</sub> 6.20, MnSO<sub>4</sub>·H<sub>2</sub>O 16.9, ZnSO<sub>4</sub>·7H<sub>2</sub>O 8.60, KI 0.83, Na<sub>2</sub>MoO<sub>4</sub>·2H<sub>2</sub>O 0.25, CuSO<sub>4</sub>·5H<sub>2</sub>O 0.025 and CoCl<sub>2</sub>·6H<sub>2</sub>O 0.025 (manufacturer's specification).

**Table S1b. Composition of the ammonium-based Hoagland solution**

Component	Concentration
MgSO <sub>4</sub> ·7H <sub>2</sub> O	1 mM
CaCl <sub>2</sub>	4 mM
KCl	10 mM
NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	1 mM
Micronutrients (premix)	74.93 mg L <sup>-1</sup>

**Note:** The pH of the nutrient solution was adjusted to 5.8–6.0 using KOH. Micronutrients were supplied as in Table S1a.

**Table S1c. Composition of the high-nitrate nutrient solution (HN, 20 mM KNO<sub>3</sub>)**

Component	Concentration
MgSO <sub>4</sub> ·7H <sub>2</sub> O	1 mM
CaCl <sub>2</sub>	4 mM
KNO <sub>3</sub>	20 mM
Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> ·H <sub>2</sub> O	0.5 mM
Micronutrients (premix)	74.93 mg L <sup>-1</sup>

Note: The pH of the nutrient solution was adjusted to 5.8–6.0 using KOH. Micronutrients were supplied as in Table S1a.

**Table S1d. Composition of the low-nitrate nutrient solution (LN, 0.1 mM KNO<sub>3</sub>)**

Component	Concentration
MgSO <sub>4</sub> ·7H <sub>2</sub> O	1 mM
CaCl <sub>2</sub>	4 mM
KNO <sub>3</sub>	0.1 mM
KCl	20 mM
Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> ·H <sub>2</sub> O	0.5 mM
Micronutrients (premix)	74.93 mg L <sup>-1</sup>

Note: The pH of the nutrient solution was adjusted to 5.8–6.0 using KOH. Micronutrients were supplied as in Table S1a.