

## Supplemental materials

The supplementary materials presented below cover tables reporting the nutrient concentration measurement of the irrigation solutions used for the experiments (NST1, NST2, PANST1, and PANST2) throughout the growth period of 21 days.

**Table S1.** Macronutrient analysis of NST1 and PANST1 on day 1 and day 21.

Macronutrients	Total nitrogen (ppm)	Ammonium-N (ppm)	Nitrate -N (ppm)	Phosphorus (ppm)	Potassium (ppm)	Calcium (ppm)	Magnesium (ppm)	Sulphur (ppm)
Optimum value	150-200	-	-	50	200	150	80	60
Day 1								
NST1	159 ± 2	9.4 ± 0.01	149.5 ± 1.5	49.1 ± 12.5	176 ± 38	142 ± 17	49.6 ± 4.9	77.4 ± 7.8
PANST1	170.5 ± 2.5	9.9 ± 0.07	160.5 ± 2.5	44.7 ± 6.8	191 ± 43	147.5 ± 21.5	51 ± 3.6	78.8 ± 7
Day 21								
NST1	239 ± 11	10.5 ± 3.4	228.5 ± 7.5	55.1 ± 2.7	187 ± 1	270 ± 7	64.7 ± 4	100.4 ± 2.5
PANST1	261 ± 17	8.8 ± 1.4	252 ± 18	67.4 ± 10	214 ± 9	312 ± 27	76.7 ± 4.1	121 ± 13

**Table S2.** Micronutrient analysis of NST1 and PANST1 on day 1 and day 21.

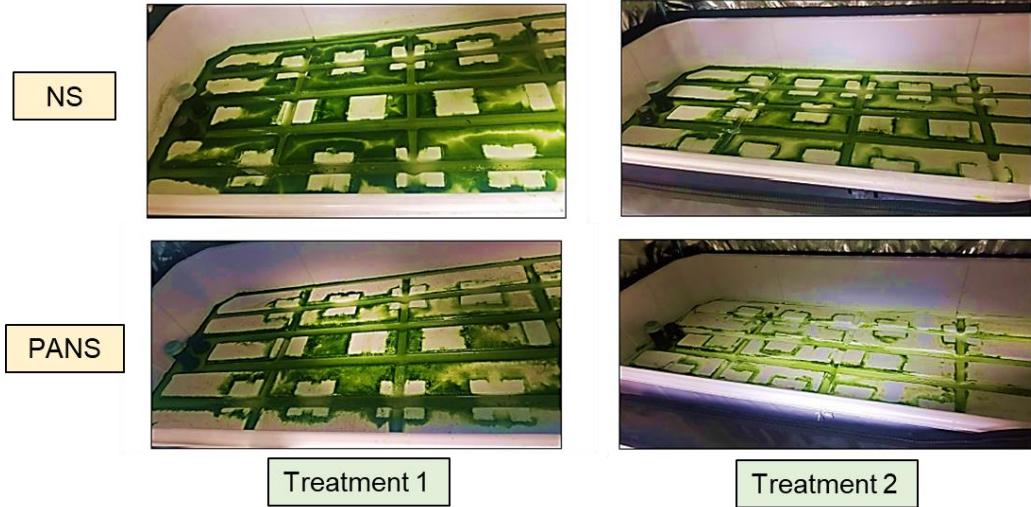
Micronutrients	Manganese (ppm)	Zinc (ppm)	Copper (ppm)	Boron (ppm)	Sodium (ppm)	Chlorine (ppm)	Iron (ppm)
Optimum value	0.8	0.3	0.2	0.7	-	-	2.8
Day 1							
NST1	0.38 ± 0.03	0.15 ± 0.01	0.17 ± 0.01	0.46 ± 0.04	26.3 ± 2.8	28.2 ± 14.8	2.4 ± 0.2
PANST1	0.4 ± 0.03	0.2 ± 0.03	0.2 ± 0.04	0.4 ± 0.04	26.4 ± 2.6	28.6 ± 2.6	2.5 ± 0.2
Day 21							
NST1	0.39 ± 0.1	0.34 ± 0.02	0.73 ± 0.03	0.57	40.5 ± 7.8	76.7 ± 10.8	2.1 ± 0.5
PANST1	0.32 ± 0.06	0.33 ± 0.09	0.54 ± 0.16	0.68 ± 0.06	49.6 ± 0.1	98.1 ± 5.9	3.4 ± 1.7

**Table S3.** Macronutrient analysis of NST2 and PANST2 on days 1 to 21.

Macronutrients	Total nitrogen (ppm)	Ammonium-N (ppm)	Nitrate (ppm)	Phosphorus (ppm)	Potassium (ppm)	Calcium (ppm)	Magnesium (ppm)	Sulphur (ppm)
Optimum value	150-200	-	-	50	200	150	80	60
Day 1								
NST2	153 ± 1	9.5 ± 0.2	143 ± 4.7	35.7 ± 1.7	142 ± 2.1	163 ± 4.9	46.8 ± 1	69.5 ± 3.7
PANST2	178.6 ± 2	11.4 ± 0.1	167.3 ± 1.6	36.4 ± 1.9	147.6 ± 3.2	194.6 ± 7.3	48.2 ± 0.7	71.5 ± 4.5
Day 8								
NST2	143 ± 6.6	9.1 ± 0.3	134 ± 4.3	31.4 ± 3.2	128.6 ± 15.3	152.6 ± 2.8	41.3 ± 4.6	62.2 ± 3.6
PANST2	163 ± 11	10.3 ± 0.6	147.5 ± 6.3	31.9 ± 5.2	134.6 ± 19.5	176.3 ± 10.5	45.5 ± 6.3	62.2 ± 7.6
Day 15								
NST2	148 ± 0.8	9.3 ± 0.1	138 ± 0.9	31.7 ± 2.9	133 ± 10.1	159.3 ± 2.4	42.4 ± 3.5	61.7 ± 4.5
PANST2	168.3 ± 7.7	10.5 ± 0.3	157.6 ± 7.5	33.1 ± 3.3	139 ± 14.1	181 ± 5.6	44.5 ± 4.6	64.6 ± 5.2
Day 21								
NST2	181.6 ± 25.4	6.2 ± 3	175.6 ± 22.8	20.4 ± 10	142 ± 20.8	218.3 ± 20.9	50.8 ± 5.7	77.9 ± 7.6
PANST2	188.6 ± 16.6	5.7 ± 3.1	182.6 ± 15.5	18.4 ± 9.8	155 ± 13.4	221 ± 20	53.5 ± 6.1	82.9 ± 9.6

**Table S4.** Micronutrient analysis of NST2 and PANST2 on days 1 to 21.

Micronutrients	Manganese (ppm)	Zinc (ppm)	Copper (ppm)	Boron (ppm)	Sodium (ppm)	Chlorine (ppm)	Iron (ppm)
Optimum value	0.8	0.3	0.2	0.7	-	-	2.8
Day 1							
NST2	0.38 ± 0.03	0.15 ± 0.01	0.17 ± 0.01	0.46 ± 0.04	26.3 ± 2.8	28.2 ± 14.8	2.4 ± 0.2
PANST2	0.4 ± 0.03	0.2 ± 0.03	0.2 ± 0.04	0.4 ± 0.04	26.4 ± 2.6	28.6 ± 2.6	2.5 ± 0.2
Day 8							
NST2	0.33	0.38	0.49 ± 0.1	0.41	49.8 ± 8.1	84.7 ± 16.4	1.5 ± 0.2
PANST2	0.33	0.25	0.54 ± 0.1	0.45	52.4 ± 10.8	89.9 ± 20.4	1.6 ± 0.1
Day 15							
NST2	0.15 ± 0.1	0.28 ± 0.1	0.45	0.46	66.3 ± 13.7	120.5 ± 29.4	1.6 ± 0.1
PANST2	0.22	0.28 ± 0.1	0.42	0.46	65.6 ± 11.5	117 ± 27.8	1.7 ± 0.2
Day 21							
NST2	0.2	0.39 ± 0.1	0.46	0.45	73.9 ± 12	97.3 ± 76.5	1.8 ± 0.4
PANST2	0.17	0.18	0.46 ± 0.1	0.48	74.5 ± 11.6	132.1 ± 24.1	1.8 ± 0.4



**Figure S1.** Pictures of flooding trays for Treatment 1 (NST1-top and PANST1-bottom) on the left and Treatment 2 (NST2-top and PANST2-bottom) on the right after basil plants were removed on day 21.