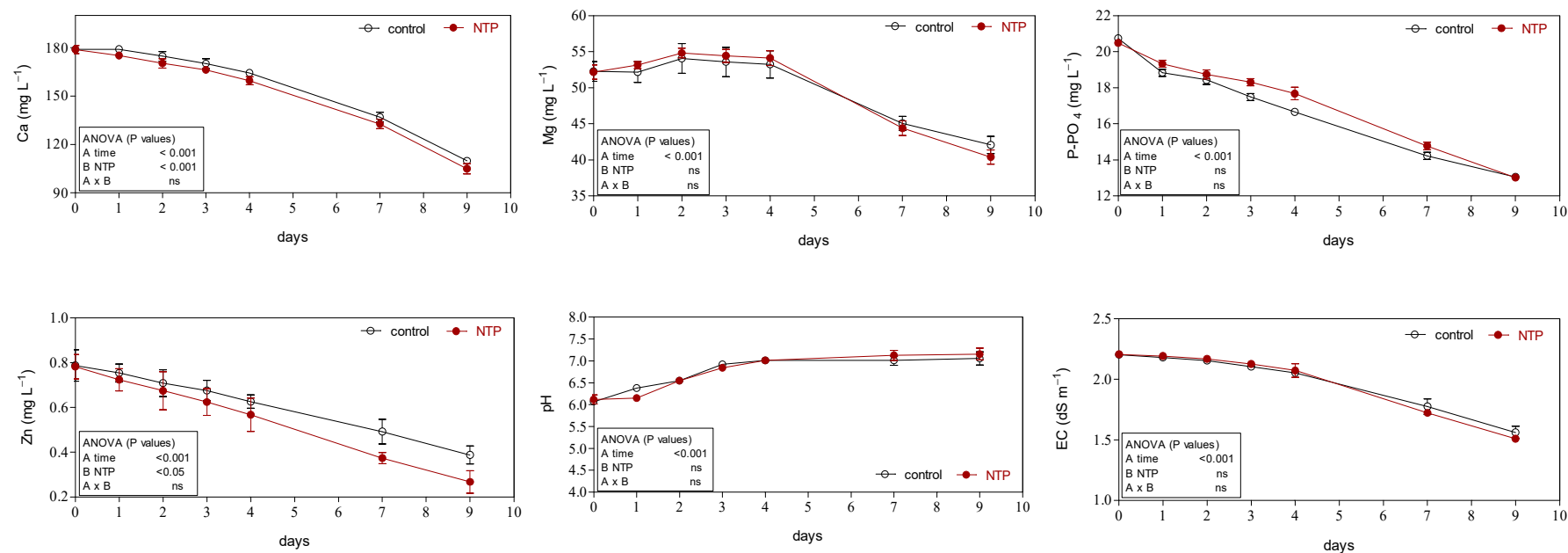
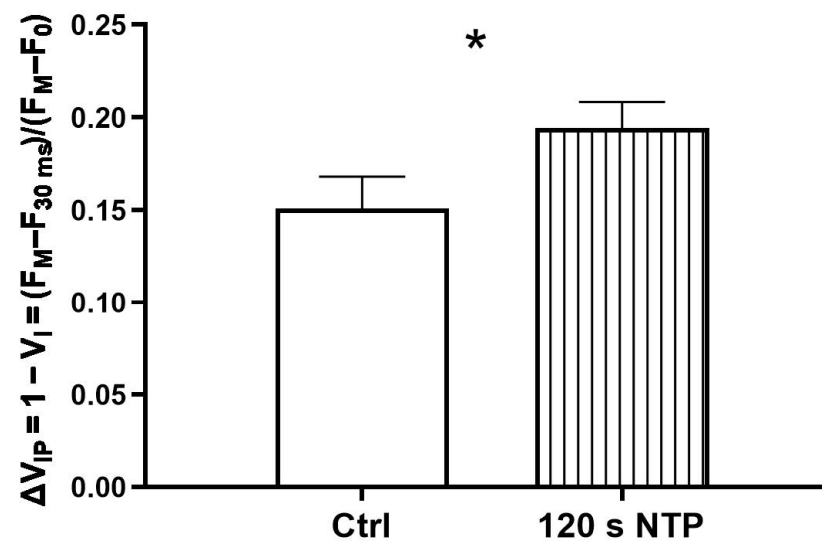


**Figure S1:** The effect of NTP treatment (120 s every hour) on the concentration of calcium (Ca), magnesium (Mg), phosphate (P-PO<sub>4</sub>), and zinc (Zn), pH and electrical conductivity (EC) of nutrient solution without plants (experiment 2). The results of ANOVA are shown inside the graphs. Different letters indicate significant differences between the control and the NTP treatment according to LDS test at 5% level.



**Figure S2.** The effect of NTP treatment (120 s every hour) on the concentration of calcium (Ca), magnesium (Mg), phosphate (P-PO<sub>4</sub>), and zinc (Zn), pH and electrical conductivity (EC) of nutrient solution with plants (experiment 3). The results of ANOVA are shown inside the graphs.



**Figure S3.** Relative amplitude of the I-P phase ( $VIP = 1 - V_I = (F_M - F_{30\text{ms}}) / (F_M - F_0)$ ) in the controls and NTP-treated plants. Data are reported as the mean  $\pm$  standard error ( $n=7$ ). Pairwise comparisons between means were performed using a two-tailed unpaired Student's *t* tests, assuming equal variances (\* $p < 0.05$ ).

**Table S1.** The effects of NTP treatment (0, 30, 60 or 120 s every hour) of the nutrient solution on shoot and root fresh weight (FW), leaf number, leaf area, root length, and the DW/FW percent ratio in both leaves and roots of baby leaf lettuce plants grown in an indoor hydroponic system for nine days (experiment 3).

Treatments	Total Carotenoids (mg g DW <sup>-1</sup> )	Total Chlorophylls (mg g DW <sup>-1</sup> )	Antioxidant capacity (μmol Fe <sup>2+</sup> g DW <sup>-1</sup> )	Total phenols (mg GAE gDW <sup>-1</sup> )
Control	2.89±0.39 <sup>z</sup> b	10.75±1.11 b	246.78±3.49 b	46.93±1.96 b
NTP (30 s)	3.36±0.28 b	13.11±0.71 b	322.04±19.16 b	47.65±1.19 b
NTP (60 s)	5.84±0.33 a	23.74±1.54 a	627.73±15.06 a	87.01±1.68 a
NTP (120 s)	5.75±0.70 a	21.87±3.76 a	602.52±88.22 a	78.98±11.57 a
Significance <sup>y</sup>	***	***	***	***

<sup>z</sup> Each value is the mean of three replicates (±SE). <sup>y</sup> Data were analyzed by one-way ANOVA, and for each column, different letters indicate statistically significant differences according to LDS test at 5% level. \*\*\*are significant at  $p < 0.001$  respectively.