

Figure S1. Leafamine® and water condition effects on number of unfolded leaves

Analysis of number of unfolded leaves of lettuces treated and untreated with Leafamine® (0.585g/pot) under well-watered and water deficient conditions. Data are expressed as means \pm standard errors of measures taken during the experiment (n=10 lettuces). At each date, values were compared by using two-way ANOVA. Abbreviations: WW-Control, Well-watered lettuces untreated; WW-Leafamine®, Well-watered lettuces treated with Leafamine®; WD-Control, Water-deficient lettuces untreated; WD-Leafamine®, Water-deficient lettuces treated with Leafamine®.

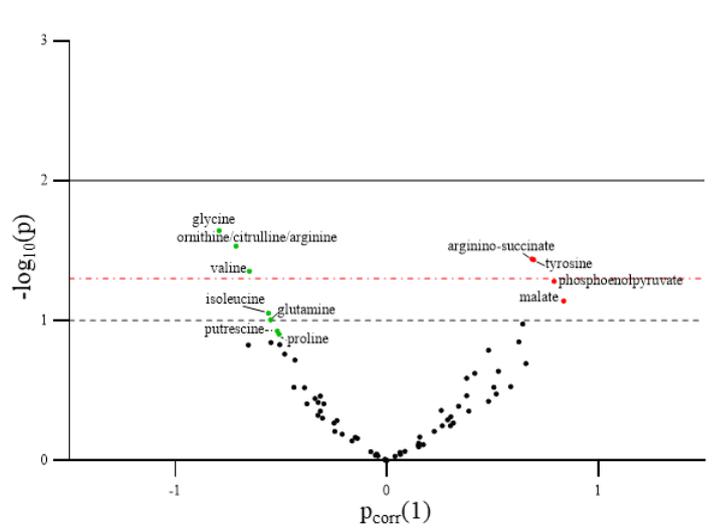
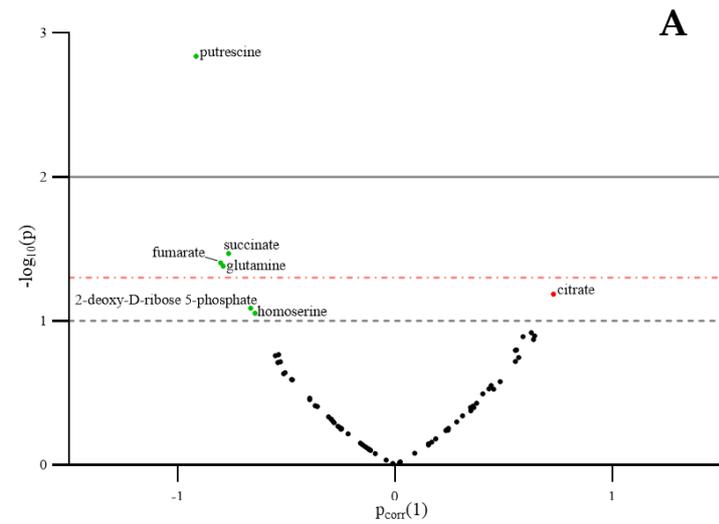


Figure S2. Leafamine[®] and water condition effects on metabolomics pattern of lettuce leaves 20 days after transplanting

Volcano plot illustrating identified metabolites (Leafamine[®] application vs control) in lettuces grown under well-watered (A) and water deficient conditions (B) 20 days after transplanting, with the p -value (y -axis) and the loading in the OPLS-DA (using treatment as ClassID, for each water condition) (x -axis). Coloured dots represent differentially expressed metabolites with statistical significance at p -value < 0.1 and 0.05 (overhead horizontal dotted black and red line, respectively) and p -value < 0.01 (overhead horizontal continuous black line). Green and red dots represent metabolites that are up-expressed and down-expressed in Leafamine[®]-treated and untreated lettuces respectively.

Table S1. Number of lettuces included in each experiment

| Water condition | Treatment | Number of plants (n) |
|------------------------|--------------------------|--|
| Well-watered | Control (water) | 10 (trial 1), 12 (trial 2), 35 (trial 3) |
| Well-watered | Leafamine® - 0,585 g/pot | 10 (trial 1), 12 (trial 2), 35 (trial 3) |
| Water deficient | Control (water) | 10 (trial 1), 12 (trial 2), 35 (trial 3) |
| Water deficient | Leafamine® - 0,585 g/pot | 10 (trial 1), 12 (trial 2), 35 (trial 3) |

Table S2. General composition of Leafamine®

| Items | Results |
|---|----------------|
| Total amino acids (<i>Method (EC) 152/2009</i>) | 88.9 % |
| Free amino acids (<i>Method (EC) 152/2009</i>) | 81.5 % |
| Na | 2.6 % |
| Cl | 2.5 % |

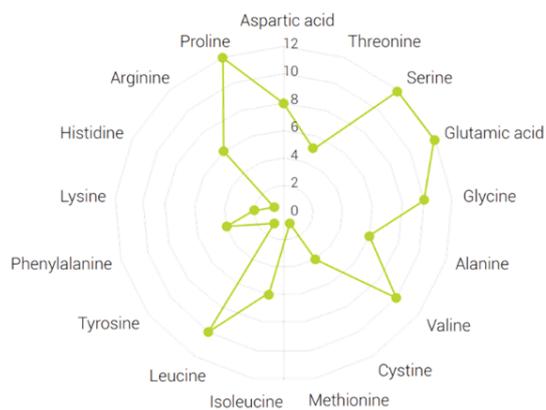


Figure S3. Total Amino Acids profile (in g/100g AA) of Leafamine®

Table S3. Details of Leafamine® composition

| Component | Free amino acids | Total amino acids |
|---------------|------------------|-------------------|
| Aspartic acid | 6.7 % | 6.8 % |
| Threonine | 4.4 % | 4.4 % |
| Serine | 11.3 % | 11.3 % |
| Glutamic acid | 9.6 % | 10 % |
| Glycine | 7.3 % | 7.6 % |
| Alanine | 4.5 % | 4.6 % |
| Valine | 5 % | 7.5 % |
| Cystine | 1.1 % | 1.9 % |
| Methionine | 0.4 % | 0.4 % |
| Isoleucine | 3.1 % | 4.3 % |
| Leucine | 6.1 % | 6.8 % |
| Tyrosine | 0.6 % | 0.9 % |
| Phenylalanine | 4.2 % | 4.4 % |
| Lysine | 1.5 % | 1.7 % |
| Histidine | 0.6 % | 0.7 % |
| Arginine | 5.3 % | 5.8 % |
| Proline | 9.8 % | 9.8 % |
| Total | 81.5 % | 88.9 % |

Table S4. Composition of peptide fraction (6%) in Leafamine®

| Peptide fraction | Results |
|------------------|---------|
| > 4 amino acids | 7.3 % |
| 3-4 amino acids | 31.6 % |
| 2-3 amino acids | 61.1 % |

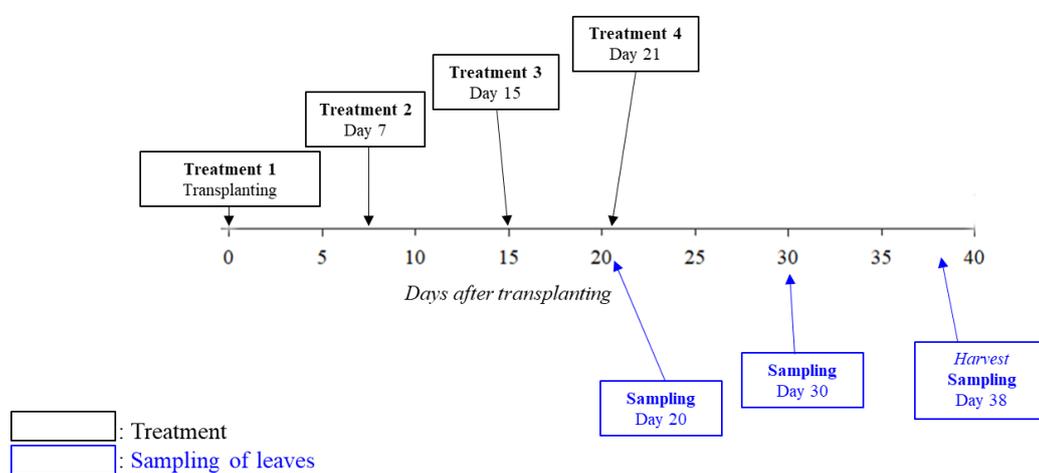


Figure S4. Treatment and sampling protocol of experiment