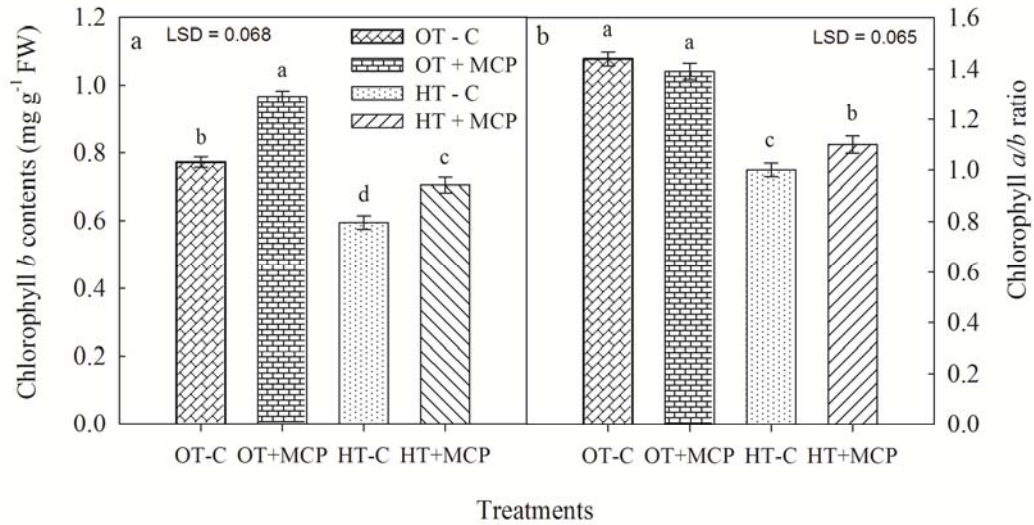


### Accessory Publication



**Fig. S1.** Effect of temperature (optimum temperature (OT) 28/18°C and high temperature (HT) 38/28°C) and 1-MCP (C - No MCP and + MCP - MCP 1000 ppb) on (a) chlorophyll *b* content (mg g<sup>-1</sup> FW) and (b) chlorophyll *a/b* ratio in soybean. Each data point is the average of four independent observations (at day 2, day 6, day 10 and day 14 of HT stress). Vertical bars denotes ± s.e.m. ( $n = 12$ ).

**Table S1. Significance and *P* values of the effects of temperature (T), chemical (C) and interaction of T\*C on ethylene content, physiological and biochemical traits in leaves of soybean plants exposed to high temperature (HT) and 1-MCP application**

| Traits  | Temperature<br>(T) | Chemical<br>(C) | T*C    |
|---|--------------------|-----------------|--------|
| Leaf ethylene content (nmol g <sup>-1</sup> FW h <sup>-1</sup> )    | <0.001***          | 0.026*          | 0.200  |
| Pod ethylene content (nmol g <sup>-1</sup> FW h <sup>-1</sup> )     | <0.001***          | 0.030*          | 0.049* |
| Chlorophyll content (SPAD units)                                    | <0.001***          | <0.001***       | 0.233  |
| F <sub>o</sub> /F <sub>m</sub> ratio (unit less)                    | <0.001***          | <0.001***       | 0.706  |
| F <sub>v</sub> /F <sub>m</sub> ratio (unit less)                    | <0.001***          | <0.001***       | 0.706  |
| Photosynthetic rate (μmol m <sup>-2</sup> s <sup>-1</sup> )         | <0.001***          | <0.001***       | 0.550  |
| Stomatal conductance (mmol m <sup>-2</sup> s <sup>-1</sup> )        | 0.015*             | <0.001***       | 0.897  |
| Chlorophyll <i>a</i> content (mg g <sup>-1</sup> FW)                | <0.001***          | <0.001***       | 0.424  |
| Chlorophyll <i>b</i> content (mg g <sup>-1</sup> FW)                | <0.001***          | <0.001***       | 0.020* |
| Chlorophyll <i>a/b</i> ratio (unit less)                            | <0.001***          | 0.408           | 0.027* |
| Total chlorophyll content (mg g <sup>-1</sup> FW)                   | <0.001***          | <0.001***       | 0.149  |
| Reducing sugars (mg g <sup>-1</sup> FW)                             | <0.001***          | 0.005**         | 0.029* |
| Sucrose content (mg g <sup>-1</sup> FW)                             | 0.006**            | <0.001***       | 0.683  |
| Total carbohydrate content (mg g <sup>-1</sup> FW)                  | 0.005**            | <0.001***       | 0.025* |
| Soluble protein content (mg g <sup>-1</sup> FW)                     | <0.001***          | 0.847           | 0.964  |
| Superoxide radical (ΔOD min <sup>-1</sup> mg <sup>-1</sup> protein) | <0.001***          | 0.033*          | 0.141  |
| Hydrogen peroxide (nmol g <sup>-1</sup> FW)                         | <0.001***          | <0.001***       | 0.605  |
| Malondialdehyde (nmol g <sup>-1</sup> FW)                           | <0.001***          | 0.018*          | 0.146  |
| Membrane damage (%)   | 0.011*             | 0.023*          | 0.974  |
| Superoxide dismutase (enzyme unit g <sup>-1</sup> FW)               | 0.018*             | 0.005**         | 0.811  |
| Catalase (μmol min <sup>-1</sup> mg protein <sup>-1</sup> )         | <0.001***          | <0.001***       | 0.080  |
| Peroxidase (μmol min <sup>-1</sup> mg protein <sup>-1</sup> )       | 0.006**            | <0.001***       | 0.074  |

(\*), (\*\*), (\*\*\*), Significant at *P* < 0.05, <0.01 and <0.001, respectively.

**Table S2. Significance and *P* value of the effects of temperature (T), chemical (C) and interaction of T\*C on yield and components of yields of soybean plants exposed to high temperature and 1-MCP application**

| Trait  | Temperature (T) | Chemical (C) | T*C    |
|--|-----------------|--------------|--------|
| Number of filled pods plant <sup>-1</sup>            | <0.001***       | 0.675        | 0.577  |
| Total number of pods plant <sup>-1</sup>             | 0.913           | 0.876        | 0.827  |
| Seed set (%)   | <0.001***       | 0.001**      | 0.029* |
| Number of seeds pod <sup>-1</sup>                    | 0.588           | 0.368        | 0.872  |
| Number of filled seeds plant <sup>-1</sup>           | <0.001***       | <0.001***    | 0.367  |
| Total number of seeds plant <sup>-1</sup>            | 0.068           | 0.678        | 0.218  |
| Seed size (mg seed <sup>-1</sup> )                   | <0.001***       | 0.002**      | 0.888  |
| Seed yield (g plant <sup>-1</sup> )                  | <0.001***       | 0.006**      | 0.235  |
| Harvest index  | <0.001***       | 0.050*       | 0.850  |
| Total dry matter production (g plant <sup>-1</sup> ) | 0.379           | 0.711        | 0.696  |

(\*), (\*\*), (\*\*\*), Significant at  $P < 0.05$ ,  $<0.01$  and  $<0.001$ , respectively.