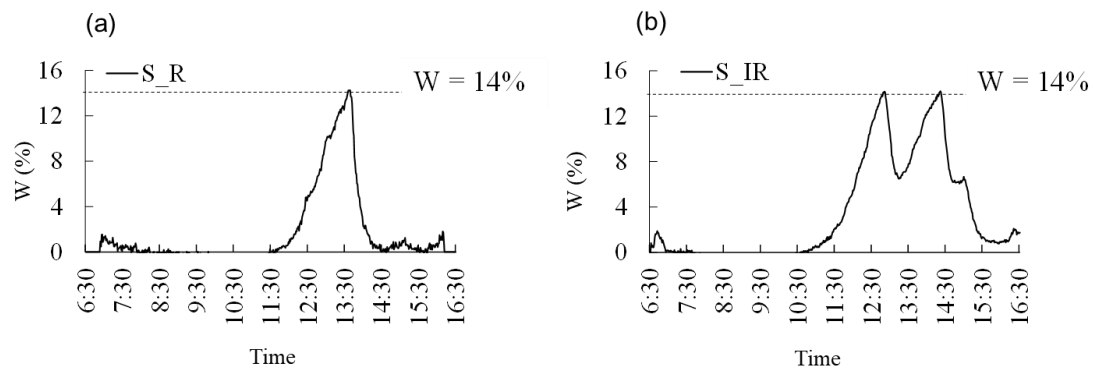
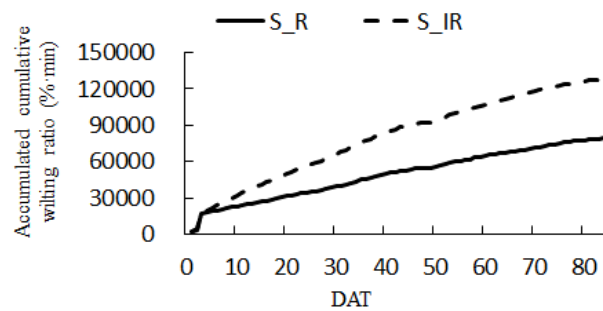


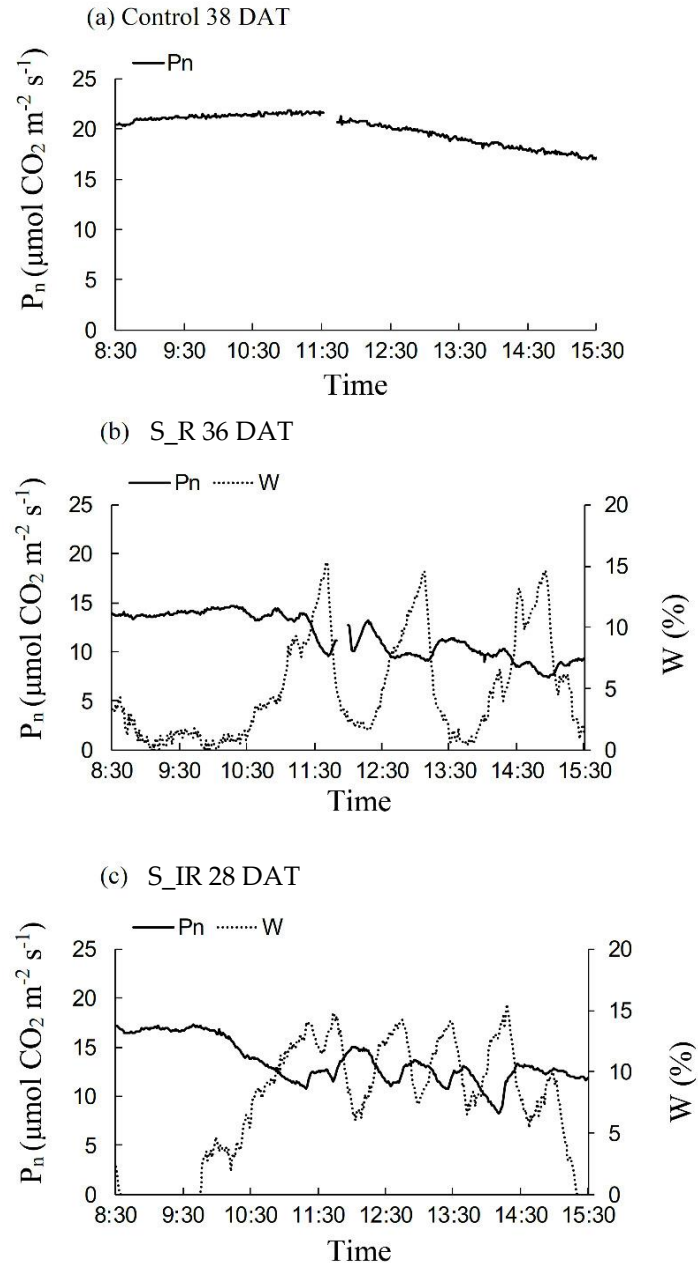
## Supplementary figures



**Figure S1.** Typical changes in wilting ratio ( $W$ ) in S\_R (a) and S\_IR (b) between 06:30 and 16:30 on a cloud day. S\_R: severe wilting–complete recovery treatment. S\_IR: severe wilting–incomplete recovery treatment. The dotted lines in (a) and (b) are the set wilting ratios, which are 14%.



**Figure S2.** Accumulated cumulative wilting ratios (CWR) during the 85-day experimental period. The cumulative wilting ratio (CWR) by summing  $W$  ( $> 4\%$ ) per minute for the 7.5 hours between 07:30 and 15:00. S\_R: severe wilting–complete recovery treatment. S\_IR: severe wilting–incomplete recovery treatment. DAT: days after treatment initiation.



**Figure S3.** Typical diurnal changes in the net photosynthetic rate ( $P_n$ ) and wilting ratio ( $W$ ) in the Control (a), S\_R (b), and S\_IR (c) from 08:30 to 15:30 on a sunny day. S\_R: severe wilting–complete recovery treatment. S\_IR: severe wilting–incomplete recovery treatment. DAT: days after treatment initiation.

**Table S1.** Effect of irrigation management on the number of leaves, stem diameter, and dry matter ratios of tomatoes measured at 85 days after the start of treatments.

| Treatment | Stem Diameter<br>(mm)     | Number of Leaves<br>(/Plant) | Dry Matter Ratio<br>(%) |
|-----------|---------------------------|------------------------------|-------------------------|
| Control   | 11.5 ± 0.4 a <sup>z</sup> | 51.1 ± 0.0 a                 | 7.9 ± 0.1 b             |
| S_R       | 7.7 ± 0.3 b               | 33.3 ± 1.0 b                 | 12.8 ± 0.2 a            |
| S_IR      | 7.7 ± 0.3 b               | 34.0 ± 0.9 b                 | 14.3 ± 0.9 a            |

S\_R: severe wilting–complete recovery treatment. S\_IR: severe wilting–incomplete recovery treatment. Each value is expressed as the mean plus or minus the standard error ( $n = 3$ ). z: the presence of different letters within the same column indicates significant differences among the treatments, as determined by the Tukey–Kramer test at a significance level of 0.05.