Table S1. Leaf temperature (T_{leaf}, °C), net CO_2 assimilation rate (A, μmol $m^{-2}s^{-1}$), evapotranspiration rate (ET, mL $m^{-2}s^{-1}$), and stomatal conductance (g_{sw}, mol $m^{-2}s^{-1}$) of regular irrigation and drought treatment plants. Values shown in table are mean±standard deviation.

Physiological parameter	Regular irrigation	Drought treatment
	Day 0	
T_{leaf} [a]	30.19 ± 1.44	30.53 ± 1.33
A [b]	14.49 ± 5.07	14.81 ± 4.73
ET [a]	0.07 ± 0.03	0.07 ± 0.03
g_{sw} [a]	0.23 ± 0.09	0.23 ± 0.11
	Last day	
T_{leaf} [a]	30.38 ± 3.86	31.50 ± 4.38 ***
A [a]	13.33 ± 5.58	3.51 ± 3.16 ***
ET [a]	0.06 ± 0.04	0.01 ± 0.01 ***
g_{sw} [a]	0.17 ± 0.11	0.02 ± 0.03 ***

[a] Using the Mann-Whitney U test to detect whether there is a significant difference between two treatments. (Data do not follow a normal distribution.)

[b] Using the pooled-t test to detect whether there is a significant difference between two treatments.

*** denotes significant difference between two treatments (p<0.001).

Table S2. The g_{sw} cutoff and the corresponding number of ordinary and low observations for the three control standards of validation data.

Control standard	g_{sw} cutoff (mol H_2O m^{-2} s^{-1})	Number of observations	
Ⅰ	0.59	Normal (0)	48
		Low (1)	476
Ⅱ	0.34	Normal (0)	149
		Low (1)	375
Ⅲ	0.20	Normal (0)	302
		Low (1)	222

Table S3. The net CO_2 assimilation rate of 'Rosada' under different PPFD. Values shown in table are mean±standard error.

PPFD incident on the leaf (μmol $m^{-2}s^{-1}$)	A (μmol CO_2 $m^{-2}s^{-1}$)
1,200	21.45 ± 0.73
900	21.01 ± 0.66
600	19.54 ± 0.51
300	13.43 ± 0.17
200	9.46 ± 0.07
150	7.14 ± 0.11
100	4.47 ± 0.14
70	2.77 ± 0.14
30	0.35 ± 0.09
0	−1.72 ± 0.05

PPFD: photosynthetic photon flux density; A: net CO_2 assimilation rate