

Supplementary Material

LED spectral quality and NaCl salinity interact to affect growth, photosynthesis and phytochemical production of *Mesembryanthemum crystallinum*

Jie He^{A,B}, Dominic K. J. Qun^A and Lin Qin^A

^ANatural Sciences and Science Education Academic Group, National Institute of Education, Nanyang Technological University, 1 Nanyang Walk, Singapore 637616.

^BCorresponding author. Email: jie.he@nie.edu.sg

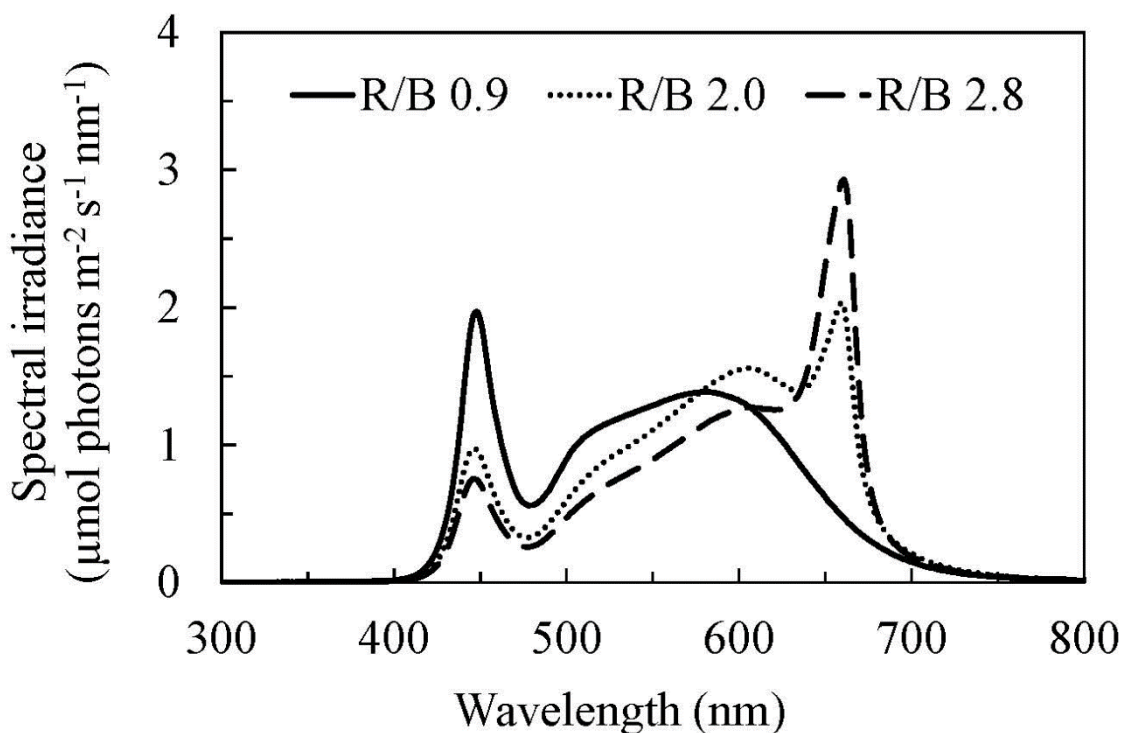


Fig. S1. Light spectra of 0.9, 2.0 and 2.8 red- and blue- (R/B) light ratio conditions. Spectral scans were recorded every 0.5 nm with a spectroradiometer (PS300, Apogee Instruments, USA).

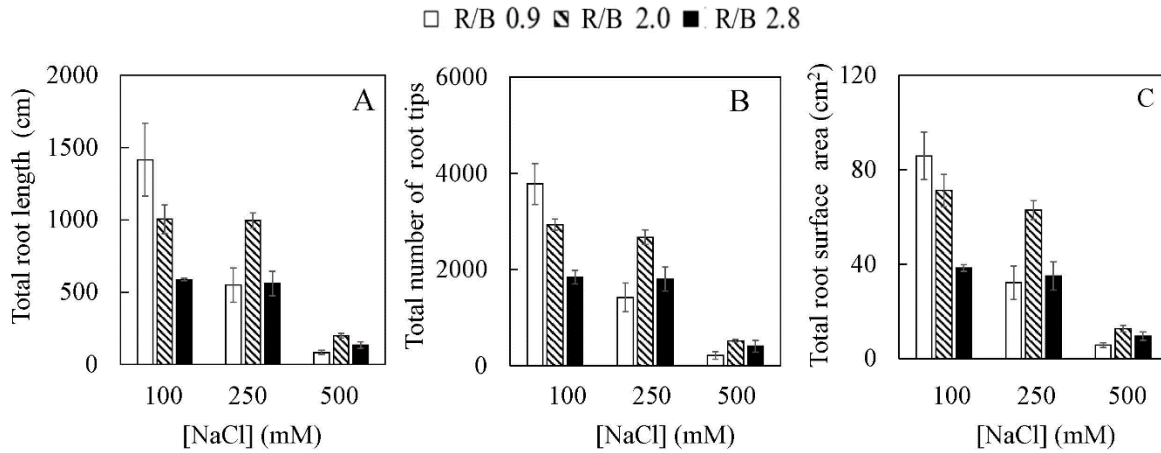


Fig. S2. Total root length (A), total number of root tips (B) and total root surface area (C) of *M. crystallinum* grown under different LED light ratios and salinities for 15 days. Interaction between LED ratio and [NaCl] were detected for total root length ($F_{4,27} = 6.96$, $p < 0.05$); total number of root ($F_{4,27} = 7.79$, $p < 0.05$) and total root surface area ($F_{4,27} = 6.66$, $p < 0.05$).

Table S1. Two-way analysis of variance of shoot and root productivity, leaf water status, CAM acidity, pigments, photosynthetic performance and phytochemicals with *P* values shown for each main effect and their interaction

Parameters	LED ratio	[NaCl]	LED ratio x [NaCl]
Shoot FW	0.183	< 0.001	0.017
Shoot DW	0.629	< 0.001	0.003
Root FW	0.106	< 0.001	0.114
Root DW	0.259	< 0.001	0.012
Shoot/root ratio FW	0.049	< 0.001	0.226
Shoot/root ratio DW	0.319	< 0.001	0.678
Leaf number	0.206	< 0.001	0.019
TLA	0.221	< 0.001	0.034
SLA	0.031	< 0.001	0.167
LS	0.324	< 0.001	0.110
LDMC	0.403	< 0.001	0.925
LWC	0.403	< 0.001	0.925
CAM acidity	0.152	< 0.001	0.225
Total Chl	0.598	< 0.001	0.003
Chl a/b ratio	0	0.031	0.008
Total Car	0.465	< 0.001	0.338
Chl/Car ratio	0.923	< 0.001	0.089
F _v /F _m ratio	0.001	< 0.001	0.016
ETR (Fig. 8)	0	< 0.001	0.003
qP (Fig. 8)	0	< 0.001	0.009
NPQ (Fig. 8)	0.508	< 0.001	0.001
Proline	0	< 0.001	< 0.001
TSS	0.002	< 0.001	0.535
Ascorbic acid	0.348	< 0.001	0.067
Total phenolic compounds	0.575	< 0.001	0.546