10.1071/FP11190_AC

Accessory Publication: *Functional Plant Biology* 39(5), 435–448.

Supplementary material

Table 1. Mean values of CO_2 mole fraction in the measurement chamber (C_a) according to the different treatments of irradiance and O_2 availability (mean ± s.d., *n* = 15)

Irradiance (PPFD)	21% O_2	1% O_2
1000 μmol m^{-2} s^{-1}	335.5 ± 18.1 μmol $mole^{-1}$	320.4 ± 23.0 μmol $mole^{-1}$
600 μmol m^{-2} s^{-1}	344.1 ± 12.9 μmol $mole^{-1}$	327.5 ± 17.9 μmol $mole^{-1}$
200 μmol m^{-2} s^{-1}	373.2 ± 3.5 μmol $mole^{-1}$	361.9 ± 3.6 μmol $mole^{-1}$

Table 2. Effects of irradiance (PPFD, 3 levels), species (3 *Eucalyptus* species) and O_2 (21 and 1%) on g_m computed with different values of the model parameters R_d, f, Γ* and b (see Equation 4)

Parameter values were kept stable across irradiance and O_2 levels, except for Γ*, which was recalculated under low O_2. Irradiance, species and O_2 effects were incorporated into the model as fixed effects, and *individual plant* as a random effect. In case of heteroscedastic data the mean was weighted as a function of the variance. Degrees of freedom are indicated as subscript of F value

		R_d=0	R_d =2	R_d =3	*e=-15*	*e=-5*	*e=+15*	*f*=0	*f*=5	*f*=15	Γ*=30	Γ*=35	Γ*=50	*b*=26	*b*=27	*b*=30
PPFD	$F_{(2,60)}$	177	133	111	211	187	61.7	188	189	139	172	168	142	181	163.66	283.40
	P	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Species	$F_{(2,12)}$	10.6	12.7	12.9	6.16	9.26	18.5	12.0	12.3	12.6	12.2	12.4	12.3	4.24	8.99	5.94
	P	0.002	0.001	0.001	0.014	0.0037	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.04	0.004	0.016
O_2	$F_{(1,60)}$	77.0	53.1	44.0	101	83.0	30.4	184	143	31.8	94.2	80.4	37.7	16.8	67.28	141.68
	P	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
PPFD × Species	$F_{(4,60)}$	46.6	NS	NS	5.36	4.18	NS	4.56	4.30	NS	3.23	3.10	2.55	7.55	4.15	9.98
	P	0.009	NS	NS	0.0008	0.004	NS	0.002	0.003	NS	0.01	0.02	0.04	0.001	0.004	<.0001
PPFD × O_2	$F_{(2,60)}$	NS	NS	4.67	NS	NS	NS	4.47	3.35	NS	NS	NS	NS	NS	NS	NS
	P	NS	NS	0.012	NS	NS	NS	0.015	0.04	NS	NS	NS	NS	NS	NS	NS