

# Supplementary Materials

**Table S1.** Responses of aboveground variables of *P. amabilis* to light intensity, water addition, groundwater level, fertilizer type, and rhizosphere soil type.

Response Variable	Levels of Treatments	Soil Physical and Chemical Indexes								
		Soil Temperature (°C)	Soil Water Content (v/v %)	Soil pH	NO <sub>3</sub> -N (mg/kg)	NH <sub>4</sub> <sup>+</sup> -N (mg/kg)	Inorganic N (mg/kg)	Soil Total Nitro- gen (g/kg)	Soil Total Phos- phorus (g/kg)	Soil Total Potas- sium (g/kg)
Light intensity (%)	8.5			5.3 ± 0.3bc	0.6 ± 0.2a	2.4 ± 0.7c	3 ± 0.6b	1.9 ± 0.1ab	1.9 ± 0.0a	
	15			5.4 ± 0.2b	0.8 ± 0.1a	4.9 ± 1.2ab	5.7 ± 1.1ab	1.9 ± 0.1a	1.9 ± 0.1a	
	28			5.1 ± 0.2c	0.8 ± 0.1a	4.3 ± 0.4ab	5.1 ± 0.4ab	1.9 ± 0.1a	2.0 ± 0.1a	
	75			5.7 ± 0.3a	0.5 ± 0.2b	6.7 ± 1.9a	7.1 ± 1.9a	1.9 ± 0.1ab	1.9 ± 0.1a	
	100 (Control)			5.4 ± 0.1b	0.7 ± 0.1a	5.4 ± 0.9ab	6.1 ± 1ab	1.8 ± 0.2b	1.8 ± 0.2b	
Water addition (mm)	800				0.7 ± 0.2a	3.9 ± 0.7a	4.6 ± 0.8a	1.9 ± 0.12ab	1.9 ± 0.2ab	17.2 ± 0.2ab
	1200				0.7 ± 0.2a	4.2 ± 0.8a	4.8 ± 0.8a	2.0 ± 0.1a	2.0 ± 0.0a	17.3 ± 0.1a
	1600 (Control)				0.7 ± 0.1a	4.7 ± 0.8a	5.5 ± 0.9a	1.9 ± 0.1ab	1.9 ± 0.0ab	17.2 ± 0.1ab
	2000				0.6 ± 0.1a	6.3 ± 1.8a	6.9 ± 1.7a	1.8 ± 0.1b	1.8 ± 0.1b	17.1 ± 0.1c
	2400				0.6 ± 0.1a	4.6 ± 1.5a	5.2 ± 1.4a	1.8 ± 0.1b	1.8 ± 0.1b	17.1 ± 0.1c
Groundwater level (cm)	0 (Control)				0.8 ± 0.1a	2.8 ± 0.3b	3.6 ± 0.4a	1.6 ± 0.2d	1.6 ± 0.1b	
	7				0.9 ± 0.1a	4.6 ± 0.8ab	5.4 ± 0.8a	1.9 ± 0.1ab	1.9 ± 0.1a	
	14				0.9 ± 0.1a	5.2 ± 1.6ab	6 ± 1.5a	2.0 ± 0.1a	2.0 ± 0.1a	
	21				0.5 ± 0.2b	4.1 ± 0.8ab	4.6 ± 0.8a	2.0 ± 0.1ab	2.0 ± 0.1a	
	28				0.3 ± 0.1c	7.1 ± 1.6a	7.3 ± 1.7a	1.9 ± 0.1c	1.9 ± 0.0a	
Fertilizer type	River sand (Control)	28.3 ± 0.2a	27.8 ± 0.6b		0.1 ± 0c	5 ± 1.6a	5.1 ± 1.6a			
	Urea	28.1 ± 0.2a	28.9 ± 0.4a		0.9 ± 0.1a	4.3 ± 0.9a	5.3 ± 0.9a			
	Compound fertilizer (N-P-K)	28.1 ± 0.2a	28 ± 0.5b		0.8 ± 0.1a	3.7 ± 1.1a	4.5 ± 1.1a			
Rhizosphere soil type	Cow manure	28.3 ± 0.2a	29.3 ± 0.5a		0.6 ± 0.2b	5.1 ± 0.9a	5.7 ± 0.9a			
	Rapeseed cake	28.1 ± 0.2a	28.2 ± 0.5b		0.9 ± 0.1a	5.6 ± 1.4a	6.4 ± 1.3a			
	River sand (Control)	28.4 ± 0.2a	26.9 ± 0.6b		0.6 ± 0.1bc	4.1 ± 1.4a	4.7 ± 1.4a	1.7 ± 0.2c	1.7 ± 0.1c	17.0 ± 0.2d
	P.M.	28.2 ± 0.2a	28.8 ± 0.5a		0.6 ± 0.1bc	5.3 ± 1.1a	5.9 ± 1.1a	1.9 ± 0.1b	1.9 ± 0.1b	17.1 ± 0.10c
	C.C.	28.1 ± 0.2a	28.5 ± 0.5a		0.9 ± 0.1a	4 ± 0.7a	4.9 ± 0.8a	1.9 ± 0.1ab	1.9 ± 0.0ab	17.2 ± 0.1ab
	Mixed	28.2 ± 0.2a	28.8 ± 0.5a		0.5 ± 0.1c	5.5 ± 1.6a	6 ± 1.6a	1.9 ± 0.1ab	1.9 ± 0.1ab	17.2 ± 0.1ab
	P.A.	28.1 ± 0.2a	29.1 ± 0.5a		0.7 ± 0.1b	4.8 ± 1.1a	5.5 ± 1.1a	2.0 ± 0.1a	2.0 ± 0.1a	17.3 ± 0.1a

Note: All values represent the means ± standard error ( $n = 10$ ) of five replicate plots for each level of light intensity, water addition, groundwater level, fertilizer type, and rhizosphere soil type. Different letters indicate significant differences among the levels of the five treatments (one-way ANOVA,  $p < 0.05$ ). Soil physical and chemical indexes include soil temperature (°C), soil water content (v/v%), soil pH, nitrate-N (NO<sub>3</sub>-N, mg/kg), soil ammonium-N (NH<sub>4</sub><sup>+</sup>-N, mg/kg), inorganic N (mg/kg), soil total nitrogen (g/kg), soil total phosphorus (m/kg), and Soil total potassium (g/kg) which are not provided in other figures and tables. The bold parts in the table represent the control treat.