

Table 1S. Parameters for the photosynthesis light response (P_N/I) curves of cassava cv. RY9 at plant aged 3 and 6 months after planting under irrigated and rainfed conditions in the rainy, cool and hot season. The range shows the values (in Figs. 1S–6S) obtained between light intensity of 100–2,500 $\mu\text{mol (photon) m}^{-2} \text{s}^{-1}$. Stomatal conductance (g_s), transpiration (E) and water use efficiency (WUE).

Parameter	Condition	3MAP			6MAP		
		Upper	Middle	Lower	Upper	Middle	Lower
Rainy season							
$g_s[\text{mol}(\text{H}_2\text{O}) \text{ m}^{-2} \text{ s}^{-1}]$	Irrigated	0.41–0.60	0.27–0.60	0.19–0.29	0.45–0.74	0.29–0.54	0.16–0.20
	Rainfed	0.61–0.84	0.65–1.01	0.31–0.53	0.48–0.78	0.33–0.59	0.18–0.39
$E[\text{mmol}(\text{H}_2\text{O}) \text{ m}^{-2} \text{ s}^{-1}]$	Irrigated	5.42–9.07	4.48–7.92	3.24–5.88	4.17–7.81	3.35–6.83	2.09–3.81
	Rainfed	6.10–9.99	5.22–9.20	3.83–7.20	3.23–6.65	2.64–5.87	1.74–4.61
WUE [$\text{mol}(\text{CO}_2) \text{ mol}(\text{H}_2\text{O})^{-1}$]	Irrigated	0.67–3.27	0.91–3.43	1.37–3.11	0.79–4.10	1.40–4.66	2.08–4.68
	Rainfed	0.36–3.33	0.65–3.80	1.02–3.58	1.28–5.76	1.93–6.00	3.24–6.44
Cool season							
$g_s[\text{mol}(\text{H}_2\text{O}) \text{ m}^{-2} \text{ s}^{-1}]$	Irrigated	0.20–0.32	0.27–0.41	0.19–0.31	0.12–0.23	0.09–0.18	0.05–0.12
	Rainfed	0.07–0.10	0.09–0.18	0.05–0.07	0.08–0.18	0.06–0.12	0.04–0.08
$E[\text{mmol}(\text{H}_2\text{O}) \text{ m}^{-2} \text{ s}^{-1}]$	Irrigated	3.21–6.10	3.58–6.01	2.49–4.94	1.66–4.15	1.44–3.60	0.83–2.22
	Rainfed	1.44–2.58	1.88–4.00	1.43–1.83	1.36–3.61	1.04–2.69	0.66–1.94
WUE [$\text{mol}(\text{CO}_2) \text{ mol}(\text{H}_2\text{O})^{-1}$]	Irrigated	0.38–5.15	0.86–6.39	2.01–7.27	1.82–7.31	2.33–6.82	3.69–6.99
	Rainfed	1.06–8.72	1.20–8.30	2.39–7.40	1.62–7.56	2.76–7.61	3.84–7.69
Hot season							
$g_s[\text{mol}(\text{H}_2\text{O}) \text{ m}^{-2} \text{ s}^{-1}]$	Irrigated	0.18–0.54	0.30–1.20	0.17–0.38	0.20–0.38	0.15–0.32	0.08–0.17
	Rainfed	0.11–0.29	0.23–0.59	0.04–0.10	0.25–0.73	0.19–0.53	0.08–0.13
$E[\text{mmol}(\text{H}_2\text{O}) \text{ m}^{-2} \text{ s}^{-1}]$	Irrigated	3.20–7.66	4.03–6.82	2.78–4.72	5.28–9.54	3.86–7.60	1.85–3.35
	Rainfed	2.43–4.80	2.80–4.86	0.93–2.03	3.93–7.81	2.86–4.84	2.12–3.67
WUE [$\text{mol}(\text{CO}_2) \text{ mol}(\text{H}_2\text{O})^{-1}$]	Irrigated	0.85–6.21	0.92–5.63	1.67–5.20	0.56–2.79	0.73–2.96	1.74–3.28
	Rainfed	1.38–6.66	1.15–6.11	3.91–7.54	0.33–3.16	0.92–3.15	0.83–2.85