

**Supplementary S2.** Plasticity index (PI) of physiological, biochemical, morphological and ultrastructural features measured in four varieties (RB92579, RB867515, RB855536, and RB72454) of sugarcane. Numbers in bold denote the mean ( $\pm$  SE).

Features	Major value	Minor value	PI
Physiological features			
Net photosynthesis ( $P_N$ )	25.64	2.37	0.91
Stomatal conductance ( $g_s$ )	199.93	91.10	0.54
Transpiration (E)	3.13	0.61	0.81
Intrinsic water use efficiency ( $WUE_i$ )	177.91	54.15	0.70
C <sub>i</sub> /C <sub>a</sub> ratio	0.69	0.18	0.74
Leaf temperature	33.55	26.48	0.21
Vapour pressure deficit	2.20	0.99	0.55
Leaf hydraulic conductance	244.15	21.85	0.91
F <sub>v</sub> /F <sub>m</sub>	0.82	0.53	0.35
Φ <sub>PSII</sub>	0.73	0.11	0.85
ETR	396.74	12.39	0.97
ETR/P <sub>N</sub>	23.33	3.40	0.85
Mean value	0.70 ± 0.07 a		
Biochemical features			
Chlorophyll a	3.09	0.55	0.82
Chlorophyll b	0.82	0.11	0.86
Chlorophyll a + b	3.72	0.78	0.79
Total Carotenoids	1.23	0.22	0.82
Carotenoids / Chl a + b	0.84	0.14	0.83
Chl a + b / Carotenoids	6.95	1.19	0.83
Amino acids	23.29	7.64	0.67
Total Proteins	166.51	36.37	0.78
SOD activity	36.63	9.20	0.75
CAT activity	42.22	13.45	0.68
APX activity	7.26	2.56	0.65
Proline	70.23	35.40	0.50
Malondialdehyde	50.22	15.87	0.68
Mean value	0.74 ± 0.03 a		
Morphological features			
Leaf area	764.65	14.46	0.98
Stalk diameter	34.06	18.99	0.44
Plant height	193.13	51.15	0.74
Mean value	0.72 ± 0.16 a		
Anatomical and Ultrastructure features			
Adaxial stomatal density	10.14	4.00	0.61
Abaxial stomatal density	19.02	13.37	0.30
Adaxial stomatal aperture	6.91	2.30	0.67
Abaxial stomatal aperture	7.48	1.82	0.76
Leaf thickness	167.59	31.08	0.81
Mean value	0.63 ± 0.09 a		